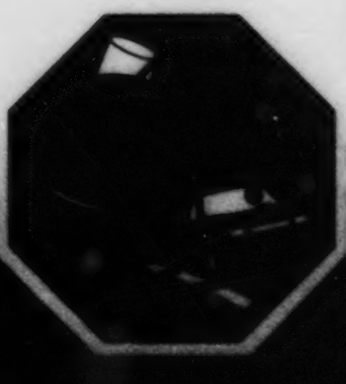
EFFECTIVE STRATEGIES TO COMBAT DRINKING AND DRIVING

An edited collection of papers presented at the International Congress on Drinking and Driving
Edmonton, Alberta,
Canada

March 28 - 30, 1990



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FOREWORD

The first international congress on drinking and driving was held in the City of Edmonton, Province of Alberta, Canada, from March 28 to 30, 1990. The *International Congress on Drinking and Driving: Effective Strategies for the 90's...A Global Perspective,* focused on effective anti-drinking and driving programs under the themes of enforcement, prevention, education and community action.

As congress host, my department was pleased to have organized an international forum in which topical areas of concern in the field could be discussed and effective problem-solving strategies could be shared among those with an interest in the fight against drinking and driving. The chief congress organizers in my department, specifically, Mr. Bob King, Deputy Solicitor General, Mr. Roy Bricker, Executive Director Corporate Services and Ms. Stella Wilson, Director, Impaired Driving Program, are to be commended in their efforts in organizing and successfully implementing this important event.

My department is also pleased to publish this collection of papers presented by the international authorities who spoke at the congress. Most of the ideas contained in the papers show clearly that drinking and driving is a serious social issue in Canada and many countries throughout the world. They also demonstrate that governments, citizens, community groups, and the private sector are taking steps to combat this serious social problem, with significant results.

This publication reflects the range of effective strategies that are being used or that can be adopted to reduce the incidence of impaired driving. It can also be used by authorities in any jurisdiction to measure their progress in addressing the problem. A further benefit of the publication is that it provides the names of the foremost authorities in this field who welcome enquiries on initiatives being undertaken in their respective jurisdictions.

Honourable R. S. (Dick) Fowler, Q.C.
Solicitor General of Alberta

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Contents

Chapter I:
Introduction 1

Chapter II:
Drinking and Driving: Global Perspectives 3

Chapter III:
Enforcement 35

Chapter IV:
Education/Prevention 119

Chapter V:
Community Action 181

Chapter VI:
Drunk Driving: Beyond the Criminal Approach 213

CHAPTER I: INTRODUCTION

The department of the Solicitor General of the Government of Alberta, with its unique mandate which includes law enforcement, driver management and corrections, was given the responsibility for coordinating and directing Alberta's initiatives to combat drinking and driving. One of the many initiatives implemented by the Department was to organize and host an international congress on drinking and driving.

Entitled the *International Congress On Drinking and Driving, Effective Strategies For The 90's... A Global Perspective,* the congress was the first of its kind to showcase effective, operational programs in the field of drinking and driving countermeasures under the main themes of enforcement, education, prevention and community action.

The congress was held in Edmonton, Alberta, Canada at the Edmonton Convention Centre for three days commencing March 28, 1990. This publication provides a brief background of the planning and organization of the congress. Additionally, a collection of edited research papers presented at the congress, are provided.

The congress was an effective forum for sharing information among the professional community in this field. Additionally, it served to build the groundwork from which future countermeasure programs may be developed.

Congress Planning

A congress planning committee with representation from the Alberta Solicitor General, Alberta Alcohol and Drug Abuse Commission, Alberta Transportation and Utilities, and People Against Impaired Drivers, an Alberta community interest group, was established in June 1989 to organize this major international event. Congress objectives were established and a determination was made as to the tasks that needed to be completed at the various stages of the congress planning process.

The objective of the congress was to showcase effective, operational programs in the impaired driving field, in order to:

- Create a network for the sharing of information on an inter-jurisdictional and international level;
- Assist colleagues in their program development activities;
- Establish effective strategies by which to combat the serious problem of drinking and driving.

It was agreed that countermeasure programs under the major themes of enforcement, education/prevention and community action would be highlighted at the congress. These themes are representative of key issues in the impaired driving field today.

A congress brochure and registration package outlining the intent of the congress, describing plenary and workshop sessions, and providing a list of invited speakers was prepared in September 1989. The following month this package was distributed to some 9,500 groups and individuals around the world. Senior policy makers, program administrators with responsibility for drinking and driving programs, judges, prosecutors, lawyers, police, motor vehicle administrators, educators, traffic safety personnel and community advocacy leaders were invited to attend.

The congress attracted 400 delegates from countries including the United Kingdom, Australia, Finland, France, Germany, the Bahamas and the United States. Every Canadian province and over 30 American states were represented at the congress.

The congress planning committee established a major communication plan to ensure good media coverage for the event. The congress drew national and international media coverage before, during and after the event. The media coverage served to raise the profile and awareness of drinking and driving issues.

The exchange of ideas that occurred at the congress was beneficial to both the Alberta Solicitor General and the other authorities who attended this event. It generated ideas that may be used to develop and implement future programs.

Purpose of Congress Publication

The International Congress On Drinking and Driving drew 55 internationally recognized speakers who gave presentations on various programs and issues relating to drinking and driving countermeasures. There were a total of five major plenary sessions and 19 workshop sessions at the congress.

This publication includes an edited collection of the research papers that were presented at the congress. These papers not only serve as a permanent record of the congress but also provide valuable information to those individuals who were unable to attend this event.

The congress papers in this publication are presented under the main themes of enforcement, education/prevention and community action. The papers are subdivided by the titles of the plenary or workshop sessions. This format is not used for the congress opening and closing plenary sessions which were general and provided information pertinent to all three theme areas. These sessions will occupy separate chapters. Following is an overview of each chapter:

CHAPTER II:
Drinking and Driving: Global Perspectives

The opening plenary session featured representatives from Australia, the United Kingdom, Finland, Germany, France, Canada and the United States. Each speaker provided his/her own perspective on current developments and future directions of drinking and driving countermeasures in their jurisdiction. This session set the stage for the other discussions at the congress.

CHAPTER III:
Enforcement

There are a number of existing programs that deal with the individual who, by driving while impaired, poses a threat to others. This section deals with programs aimed at reducing the frequency of drinking and driving through various enforcement initiatives.

CHAPTER IV:
Education/Prevention

Education and prevention programs are basic to any long term attempt to influence community attitudes and behavior against drinking and driving. This chapter provides a selection of papers presented at the congress under the education/prevention theme, again on a workshop-by-workshop basis.

CHAPTER V:
Community Action

Government alone cannot curtail the problem of impaired driving. The support of community groups, private agencies and the corporate sector in a joint effort to assist with the development and delivery of programs is required to combat drinking and driving. This chapter provides a collection of papers that relate to mobilizing the community.

CHAPTER VI:
Drunk Driving: Beyond the Criminal Approach

Drinking and driving is a global issue that commands a systematic, coordinated set of countermeasures. The congress provided a forum for the discussion of these strategic measures and solidified the belief that no single initiative, in and of itself, is a panacea.

This last chapter provides a summation of the future directions that must be considered if communities are to make a significant impact in reducing the incidence of drinking and driving.

CHAPTER II:
DRINKING AND DRIVING:
GLOBAL PERSPECTIVES

AUSTRALIA

Dr. Ross Homel

Dr. Homel is an associate professor at the school of Behavioural Sciences at Macquarie University, N.S.W., Australia

Annual road fatalities in Australia have been decreasing since 1970, both in terms of population and the number of registered vehicles (Federal Office of Road Safety, 1990). Expressed as a rate per 100 million vehicle kilometers travelled, Australia's annual fatality rate of 1.9 (1987 figure) is a little better than that of Canada, New Zealand, Japan, and Germany, and is approaching that of the United States, the United Kingdom, and Sweden. In 1970, the Australian fatality rate based on kilometers travelled was worse than all of these countries except Japan and Germany, so it seems that in terms of international relativities some progress has been made.

The fact that drinking and driving is known to be the single biggest contributor to road fatalities suggests that this progress may have depended to some extent on the development of effective drinking and driving countermeasures. The purpose of this paper is to review current countermeasures in Australia, with a special emphasis on those programs which have been shown to reduce accidents, or which can at least be regarded as promising in their accident reduction potential. Unfortunately, there are very few Australian countermeasures which can, on scientifically acceptable grounds, be claimed as successes in terms of accident reduction. Interestingly, all those that can be claimed with reasonable certainty as successes are legislative initiatives: the reduction in the prescribed concentration of alcohol from .08 to .05, the introduction of zero BAC limits for novice drivers, and especially random breath testing (RBT), provided it is implemented "correctly". A new analysis of the effects (or lack of effects) of a series of legislative initiatives taken in New South Wales is presented later in this paper.

Although per se laws and preliminary breath test procedures, modelled on the British Road Safety Act of 1967, were implemented in most parts of Australia by 1971, there was relatively little legislative activity focused on drinking and driving until the mid-to-late 1970's. During the 1970's, the legislative emphasis was as much on the compulsory use of seat belts and motorcycle helmets, the installation of head and child restraints, and the alteration of speed limits with the introduction of the metric system, as it was on drinking and driving. Of at least equal significance during this period (and into the 1980's) was a major program of road upgrading which made the roadside environment more forgiving of human error. Additionally, vehicle design rules were greatly expanded in scope (Jiggins, 1985).

In terms of drinking and driving laws and their enforcement, the introduction of random breath testing (RBT) in Victoria in July 1976 was a watershed, since it was the first step in a sustained movement toward increased penalties and more rigorous enforcement in all parts of Australia. The developments in legislation were paralleled by and linked with developments in non-legislative drinking and driving countermeasures. Initiatives have included mass media campaigns, school-based education programs, rehabilitation programs for convicted offenders, and modifications to the physical and social environments. We will consider some of these initiatives, before examining the effects of legislation.

Treatment, Mass Media Campaigns, and Education

Treatment

There has never been a wholehearted commitment to rehabilitation or treatment programs for drinking and driving offenders in most parts of Australia. In a recent survey of the field, Sanson-Fischer and his colleagues (1986) were able to locate 27 treatment programs in operation within Australia, of which 18 were in Victoria. No other state or territory had more than two programs at the time of the survey. By contrast, in 1981, Bush and Harris (1981) identified 16 drinking and driving programs in New South Wales, with more than half of all the larger courts in the Sydney Metropolitan area having available to them some form of program. The picture seems clear: with the exception of Victoria, interest and investment in treatment peaked in the late 1970's and early '80's, with a rapid decline since then. For the smaller jurisdictions it is not even clear that there was ever a peak, despite the comment of Sanson-Fisher and his co-workers (1986) that throughout Australia, programs have been established at a fairly constant annual rate of three since 1976, with no evidence of a decline.

About 80% of Australian programs primarily use a health education model, although therapeutic, skills-based and assessment-only programs can also be found. The majority of programs do not target specific groups (such as young or repeat offenders), and a significant number do not even assess alcohol-related problems or alcohol consumption among clients. Group sessions are the norm, although about one quarter of the programs mix individual and group interventions. In most cases there is no follow-up after the completion of the program, either for maintenance of behaviour changes or for evaluation purposes. Indeed, it is a sad reflection on the field that for the great majority of Australian programs there are no published evaluations, although there are a number of in-house reports which are mainly of the pre-post knowledge increase variety.

Rehabilitation programs now occupy a fairly minor place in the array of measures available to policy makers in Australia. However, although no program has been proven effective in reducing recidivism or alcohol-related accidents, continuing interest is expressed by magistrates, politicians, and others in some kind of treatment alternative. Perhaps the most promising initiatives are inexpensive "minimal intervention" approaches like the first offender educational package being developed in South Australia (Clayer & Mendoza, 1987; Drug and Alcohol Services Council, 1989). This program is based on the assumption that a critical factor in the effectiveness of any educational program is the state of readiness of the learner, so the offender is presented with the package at the time of conviction by the Magistrate or Clerk of the Court, maximizing its psychological impact.

Mass Media and Community Campaigns

The earliest media campaign which specifically focused on drinking and driving was conducted in New South Wales in 1974 (Henderson & Freedman, 1976). The campaign was carried out in two stages. In the first stage the aim was to increase public knowledge of alcohol, driving, and drinking and driving legislation.

The second stage had the more ambitious aim of changing social attitudes toward drinking and driving, and revolved around the slogan, "Stop a slob from driving". Evaluation indicated a small increase in knowledge after the first stage, further increases after the second stage, and a slight improvement in attitudes after the second stage. Henderson and Freedman (1976) concluded that despite the positive indications, the cost effectiveness of media campaigns has yet to be demonstrated.

In 1980-81, the Federal Office of Road Safety conducted an evaluation of a pilot campaign emphasizing responsibility towards friends and possible intervention behaviour (Boughton & South, 1983; Elliott & South, 1983). The award winning campaign used the theme "What sort of friend are you? Would you let a friend drive if he's had too much to drink?", and featured a popular television actor, Paul Cronin. Elliott and South (1983) concluded that the pilot campaign was successful in reducing the incidence of driving after drinking more than three drinks on one occasion, but that it was not successful in increasing the incidence of intervention behaviours. It seems that while the public accepted that intervention is desirable, practical difficulties mean that it is not attempted very often.

The results of the pilot were sufficiently encouraging to warrant extension to a national campaign, which took place between December 1982 and March 1983. Unfortunately, the period of the campaign coincided precisely with the introduction of RBT in New South Wales, the Australian Capital Territory and Tasmania, making it very difficult to attribute results directly to the campaign.

Since 1986, the Federal Office of Road Safety, in cooperation with Mobil Oil Australia Ltd., developed a program called "Street Beat" which is aimed at drivers aged 16 to 25 years. The campaign makes heavy use of current music featuring popular rock performer Jimmy Barnes, and uses concerts, video clips, television commercials, FM radio, cinema, a special magazine, posters, car stickers and slogans on clothing. Although not focused exclusively on drinking and driving, positive results in this area could be expected from the campaign. The most recent initiative, Home Safely, is sponsored by industry, including many sections of the liquor industry. It encourages family discussion between teenagers and parents about drinking and driving (Home Safely, 1989). A key element is a contract between teenagers and parents. The campaign, which was launched in 1989 is promoted through schools and relies on bumper stickers, videos, pamphlets, and the "Contracts for Life."

Publicity campaigns and community-based programs are inherently difficult to evaluate. They rely on various vehicles of information, dissemination, and are often designed to effect changes in attitudes and practices gradually rather than instantaneously. They are implemented in a manner which makes it very difficult to monitor program "input" and, being broadly based, it is difficult to separate their effects from those of other initiatives. It is unfair therefore to label them all as failures because direct evidence for a reduction in collisions is not available. Everyday experience suggests that they have contributed to a "background" awareness in the community of the dangers of drinking and driving, but that their effects are probably greatly amplified by the existence of effective law enforcement.

Education in Schools

The developers of the Queensland Drinking and Driving Project (1989) comment that:

> *When the question of estimating the likely effectiveness of school-based drinking and driving prevention programs is explored, it is found that very few program evaluations have made their way into the published literature, in comparison to the number of programs in operation. Those evaluations which are reported are often methodologically limited.*

From what is known, effective programs focus on social skills training specifically related to the situation and behaviour which needs to be changed. Social skills training is a key element in programs developed both in New South Wales and Queensland. A high school drinking and driving education program for grade 10 students has operated in New South Wales since 1981 (the Traffic Authority Drinking and Driving Educational Materials Project), and has been evaluated by Batchler and Grundy (1986) in Armidale High School in the New England region. The program consists of six lessons over a ten week period, and themes include alcohol and driving, drinking and driving laws, avoiding drinking and driving and advertising. The evaluation was based on questionnaires and semi-structured interviews conducted with teachers and students before and after the course (no control group). Batchler and Grundy (1986) found that the resource kit was popular with teachers and was well received by students, who manifested positive changes in knowledge and attitudes. Most teachers felt that rather than integrate materials across a range of subject areas, information about drinking and driving should be presented in a core unit so that all students could participate. The program has recently been adapted for use in South Australia, but with a much greater emphasis on overcoming the practical barriers and physical design problems which can discourage teachers from using this kind of resource (Harden, 1987).

Despite the good standing of this project as an educational resource, and its apparent success in one high school in New South Wales, the kit has not been widely used in the state and has now been superseded by a program called "Are you in control?" (St. John, Edwards & Stenstrom, 1987). The main problem with the old kit was that many teachers did not know it existed and considerable time was required to modify it for classroom use (a problem emphasized by Harden, 1987).

To encourage use of the new materials, an integrated approach has been adopted so that drinking and driving issues are encountered by the student as part of the normal classroom experience. Moreover, a number of road safety education consultants are working full time to promote the program in schools. A large evaluation is planned (St. John et al., 1987; Antill, 1989).

The Queensland Drinking and Driving Education Project, which began in 1983, has involved the development and short-term evaluation of a series of twelve lessons designed for use anywhere in Australia with grade nine and ten students (15 and 16 year-olds). The program, PASS (Plan a Safe Strategy), aims to teach students to separate drinking from driving by using alternative strategies and refusing to be the passenger of a drinking driver. The program is grounded in the theories of reasoned action (Ajzen & Fishbein, 1980) and planned behaviour (Ajzen & Madden, 1986), with lesson materials focusing on the modification of attitudes to drinking and driving, subjective norms (social and peer group pressures), behavioural control (practice in pre-planning), and the stability of factors affecting behaviour change.

An extensive formative evaluation was carried out, based on a wide variety of data from teachers, students and classroom observers in three rural and four metropolitan schools. Vital information emerged from this stage of the research, including the great value of homework exercises (which raised the consciousness of parents and provided a structured way of talking with parents about drinking and driving) and the need to deal with drinking and driving parents who are likely to react strongly to children who refuse to travel as passengers.

A short term evaluation was carried out, based on over 600 students in one city and one rural school, randomly selected as the experimental sites, and one city and one rural school randomly selected as the control sites. Students were tested immediately before the program and about one week after its conclusion. An attrition rate of 21 percent in metropolitan and 30 percent in rural schools was experienced, with absent students being more frequent drinkers, drivers, and drinking drivers. Significant improvements were found in intentions to drink and drive (as driver or passenger), as well as in attitudes, knowledge, and the acceptance of myths about drinking and driving. Unfortunately none of the reported undesirable behaviours changed significantly, although they moved in the right direction.

The researchers note that it may have been unrealistic to have expected measurable effects on behaviour within a very short time period. Further evaluation is planned using analyses of accident and offence records of 5,000 students, as well as longitudinal surveys of these students followed up at driving age and then again at the age of 21 years.

In terms of conceptual clarity, theoretical grounding, planning, and evaluation, the Queensland program is an outstanding example of school-based educational intervention. The research design proposed for the long term evaluation has the power and flexibility to detect changes occurring at many levels in the student population and in the wider community. There are good grounds for believing that in combination with effective random breath testing, the New South Wales and Queensland programs will have a substantial impact on young drivers.

Modifying the Physical Environment

The Roadside Environment

Johnston (1980), in an analysis of alcohol-related crashes in Victoria, pointed out that among "ran-off-the-road" accidents, alcohol was significantly more prevalent in those that occurred on curved sections of road. This suggested the possibility of preventing such accidents through improvements to roadway delineation. In subsequent research based on field experiments, he concluded that optimum delineation treatment seems to be one which combines chevron alignment signs with a wide edgeline (Johnston, 1983). However, he argued that a field validation study should be carried out using unobtrusive measurements of normal traffic before final treatment of high-risk rural road curves is undertaken. A second major point made by Johnston (1980) was that nearly 75 percent of accidents in which a vehicle struck a fixed object, such as a utility pole or a tree, were alcohol-related. This suggests action to remove, relocate or guard such objects, recognizing that not all require remedial treatment.

Widespread implementation and evaluation of these research findings does not yet appear to have been carried out in Australia. In a review article, Cunningham (1986) concluded that the results of nearly 10 years of effort in Victoria to manage roadside hazards have been "unimpressive." More exactly, measures such as the joint use of poles by different authorities (thus reducing the number) and the use of frangible street lighting poles have not, it seems succeeded in reducing the number of severity of "run-off-the-road" type accidents. He recommended that reliance on voluntary cooperation between government authorities be abandoned, and that a single authority be designated with the power to identify and treat roadside hazards effectively (the Road Traffic Authority in Victoria has this authority). He also recommended that detailed route analyses encompassing all potential roadside hazards be undertaken, with a particular emphasis on cost effectiveness. This program of research has commenced for rural highways (Armour et al., 1989), and has highlighted trees close to the traffic lanes and the presence of unsealed shoulders as key risk factors. Later reports will contain guidelines for tree planting and object placement on rural roads.

Ignition Interlock Devices

After a study of the marginal specific deterrent impact of heavy versus light penalties imposed on convicted drinking drivers in New South Wales (Homel, 1980), I recommended the use of ignition interlocks in the vehicles of recidivist offenders. These devices require the driver to blow into a breath testing device built into the vehicle and to register a BAC less than a specified level before the vehicle can be started. However, governments in Australia have been reluctant to support the development and implementation of these devices, despite support from road safety authorities (e.g., Cantali & Herbert, 1980).

Originally, the reliability of interlock devices could not be achieved at a reasonable cost, and several major technical problems were encountered. A comprehensive review of the field was completed by the Road Traffic Authority of Victoria (1987), the authors of which concluded that for the costs of the devices to be off-set by the savings to the community in fatal and injury crashes, the devices would need to be only 30 percent effective if they were applicable for the full six years of a driving licence.

More recently, Mackiewicz and South (1989) described the practical problems involved in a planned trial of these devices in Victoria with drinking drivers who will have them installed as a condition of relicencing (not, as the authors emphasize, as an alternative to licence suspension or as a way of having the period of licence loss reduced). In the trial, the target group will be recidivist offenders with a BAC of at least .20g percent. It will not be compulsory to fit a device, but the only licence available to such drivers after a four year disqualification would have the condition that a vehicle with an interlock be driven for up to two years. Of course, as the authors concede, this may simply encourage unlicenced driving.

Alcohol Availability and the Social Environment

Alcohol Availability

It has been many years since any Australian government deliberately took steps to reduce access to alcohol, although increases in taxation and the introduction of low alcohol beers have received tacit encouragement from health and road safety authorities (Hawks, 1986; Smith, 1987a). Consequently, what is known about the effect of alcohol availability is restricted to increases rather than decreases in availability.

In a series of studies, both literature reviews and empirical investigations, Ian Smith has investigated nearly all aspects of increased availability. In a most interesting early study, he evaluated the effects on traffic fatalities and injury crashes of the law of July 7, 1970 legalizing the sale and supply of liquor on Sundays in the Perth metropolitan area (Smith, 1976; 1979). Fortunately for the experimental design, Sunday sessions operated in the rest of Western Australia for the duration of the study period (three years before and after the enactment of law). Crashes occurring on the other six days of the week were also used as a control for factors like traffic volume. Smith concluded that the results of the study were consistent with, but did not actually prove, the hypothesis that the introduction of Sunday sessions in Perth had a detrimental effect on traffic safety (a 64 percent increase in fatal accidents occurring on Sundays was observed).

Other studies by Smith confirm the general conclusion that increased hours of sale, later closing times and more flexible trading hours probably increase the number of injury-producing traffic crashes (Homel & Wilson, 1987). In addition, the lowering of the legal public drinking age from 21 to 18 in all parts of Australia in the late 1960's and early 1970's appeared to increase the number of injury crashes in the 17-20 year age group (Smith & Burville, 1986). All these findings are consistent with North American research (eg. Panel on Alternative Policies Affecting the Prevention of Alcohol Abuse and Alcoholism, 1981; Williams, 1986).

Despite these research findings, Australian governments have continued to act as if changes in alcohol availability have no implications at all for traffic safety (Homel, in press). In recent years, there has been an accelerated trend towards deregulation of liquor licensing, both on ideological grounds (governments should not interfere with the free operations of the market) and on economic grounds (deregulation is seen as increasing national income from tourism). A proposal to increase the legal drinking age (Homel & Wilson, 1987) is not taken seriously by politicians of any political party, and recent Federal government initiatives have reduced taxation on beer. One of the more ironic aspects of government actions in this field is that increases in availability often coincide with laws aimed at the deterrence of drinking and driving. For example, the Western Australian government increased Sunday hotel trading hours from six to nine hours on February 1, 1989, only five months after the introduction of RBT. There is some evidence that this increase in trading hours negated the beneficial impact of RBT on Sunday night time casualties (Traffic Board of Western Australia, 1989).

Server Intervention Programs

The aims of server intervention programs are to create an environment for drinking which reduces the risk of intoxication, and reduces the risk that intoxicated persons will harm themselves or others (Saltz, 1985). As Peter Homel (1989) has pointed out, there are two major philosophical approaches underlying server intervention: the social responsibility model and the server liability model. North American approaches have been characterised by server liability sanctions, either through dram shop liability laws (in the United States) or though common law precedents (most typical of Canada). Such sanctions are almost entirely absent in Australian scene, so the development of server intervention has been based on the social responsibility approach.

> *The social responsibility model supposes that the problem drinker is as much a concern to the retail outlet management as for the person and his/her family. As such it will be in the commercial interests of the retail liquor outlet management to put in place some mechanism for preventing the problem drinker from becoming a problem for the management. It is argued that if this person can be discouraged from drinking problematically by referral to treatment or if the problem drinking behaviour can be inhibited in its development through the creation of a supportive social environment then the ultimate benefit derives to the retailer through the removal of their problem and the creation of an entirely new market in the broadening of their establishment's appeal. (P. Homel, 1989, p.4).*

A program based on the social responsibility model has been operating in Queensland since 1981, where it is known as Patron Care (Carvolth, 1985). More specifically, the program aims to train hotel staff to identify patrons of long standing, whose drinking is excessive or disruptive, and to help them implement policies which will reduce the incidence of alcohol problems. There is an emphasis on channelling problem drinkers from bars into alcohol treatment programs. The strength of cooperation between the Queensland Department of Health and the liquor industry is emphasized, and the traditional stance of seeing the liquor industry as an enemy is rejected. No evaluations of the program have been published, and there appears to be little explicit attention to drinking and driving as an important target behaviour. Peter Homel comments that the program, "appears to have met with only limited success."

National Guidelines for the Responsible Serving of Alcohol, produced jointly by the Government sponsored National Campaign Against Drug Abuse, and the National Alcohol Beverage Industries Council, will be launched in mid 1990. These guidelines are intended to be used voluntarily by managers and staff. They cover alcohol and the law, facts about alcohol, strategies for responsible serving of alcohol, and managing the intoxicated drinker. It is not clear how evaluation will be carried out. Homel and Wilson (1987) have argued that without some sanctions, either in the form of common law precedents or conditions built into licensing legislation, server intervention is unlikely to be successful. This view is supported by Peter Homel (1989), who suggests that the best next step for server programs in Australia would be the encouragement of the successful mounting of a claim of negligence, as a test case.

Coin Operated Breath Testers in Drinking Locations

There may be more direct ways of modifying the drinking environment than simply through server intervention. Breath testing machines in pubs, clubs, and restaurants may be one way of reducing consumption among some patrons, particularly with random breath testing as an incentive (Homel, in press). These devices have become quite common in the past few years, especially in New South Wales and Victoria.

A formative evaluation of coin operated breath testers in Victoria has been carried out by Mackiewicz (1988). Thirty breath testers were placed in various establishments for a six month trial. Data on usage was collected using electronic equipment fitted to each unit, through interviews with over 300 users, and by observation. The devices received a great deal of use, 64 percent of readings were over the legal limit of .05, and users tended to be drawn from sociodemographic groups with a high accident risk (young single males, a quarter of whom had previously lost their licence). Acceptance by patrons and staff was very high. There was considerable educative value by allowing drinkers to relate drinking rates and quantities to precise BAC levels - a third of the users who registered over the legal limit changed their mind about driving, and the level of deliberate misuse (for example, by using the devices for drinking competitions) was quite low.

Legislation and Law Enforcement

Per se laws were introduced many years ago, and currently fewer that five percent of drinking and driving offenders are convicted on evidence other than that of a breath test. A feature of Australian legislation which is shared with the Scandinavian countries is the use of legal limit of .05g percent for motorists in four jurisdictions (the limit is.08 in the remaining four states and territories: See Table 1). Whether the limit is .05 or .08, BAC's estimated from breath analysis are able to be used as evidence in court; blood tests are not necessary, although one may be requested by a motorist. In addition, nearly all Australian jurisdictions have moved to zero or near zero BAC levels for novice drivers. In many states and territories drivers admitted to a hospital after a crash are required by law to be blood tested to determine their BAC. These laws are summarized in Table 1 (please see next page).

Penalties were also increased during the 1970's and early 80's, with punishments in all jurisdictions now being tied to BAC and previous drinking and driving convictions. The most common penalty is a fine and a period of licence suspension (most commonly three or six months). Moreover, penalties in most Australian jurisdictions are relatively certain once an offender has been apprehended. Practices such as plea or charge bargaining in drinking and driving cases are very rare (Homel, 1988). Administrative licence suspension has recently been introduced in New South Wales and Victoria for drivers with over .150 BAC. Although there is provision for appeal, an appeal does not provide grounds for reinstatement of the licence prior to the court hearing.

The trend in Australia to lower legal BAC levels, high certainty of punishment for apprehended individuals, and tougher penalties in court perhaps conveys the impression of a relentless system of enforcement unmatched anywhere except in Scandinavia. However, despite the tough legislation and severe maximum penalties, actual punishments in Australia are far from draconian and are frequently less severe than those imposed in the United States or Britain. In particular, imprisonment is a relatively uncommon penalty for drinking and driving (fewer than two percent of offenders are imprisoned). These patterns of moderate penalties are of some importance to the impact of RBT, which is aimed at increasing the perceived likelihood of arrest rather than the perceived severity of penalties.

In addition to the work of Homel (1986), there appear to be no published evaluations of the effects of increasing penalty severity, and there are no evaluations of administrative licence suspensions, published or planned. Homel (1986) found that the penalty increases which accompanied the introduction of RBT in New South Wales had a small deterrent impact, independent of RBT itself. These effects were especially apparent for drivers with a conviction for drinking and driving, but the effects overall were probably short-lived. Most research studies deal with the impact of RBT or enforcement blitzes, but some other aspects of legislation have received attention.

Some of these studies are reviewed below, in the context of a new analysis of daily fatal accidents in New South Wales for an 11 year period from July 1, 1975 to December 31, 1986 (Homel, 1990). The purpose of this analysis is to evaluate the long term impact of 14 legal changes in New South Wales which were judged to have the potential, a priori, to affect the number of fatal crashes. The major intervention during this period was RBT, introduced on December 17, 1982, and the analysis allows the size of the effect of RBT to be estimated, relative to the effects (or apparent lack of effects) of other legal initiatives.

Table I.
Drink Driving Legislation in Australia

State/ Territory	RBT	BAC Limits (g%)			Compulsory blood testing in hospitals after crashes
		Experienced drivers		Novice drivers	
New South Wales	Yes	.05	.02	Provisional licence and learners	Drivers, riders and pedestrians over 15 years old
Victoria	Yes	.05	.00	Learner, provisional and unlicenced drivers	All people over 15 years old
Queensland	Yes	.05	.02	Drivers under 18	Legislation passed but not proclaimed
South Australia	Yes	.08	.00	Learner and provisional	All people over 13 years old
Western Australia	Yes	.08	.02	Provisional and learner drivers	No legislation
Northern	Yes	.08	.00	Learner, provisional and all drivers under 18	Drivers, riders and pedestrians over 15 years old
Australia Capital Territory	Yes	.08	.00	Proposed for learner, first year and unlicenced drivers	No legislation

Source: Federal Office of Road Safety (1990)

Traffic Fatalities and Legislative Changes in New South Wales

Statistical Method

The fact that legislative measures are usually intended to have an immediate impact means that they should be subjected to close scrutiny whenever they are introduced using, where possible, interrupted time-series methods (Cook & Campbell, 1979). These statistical models offer the possibility of isolating the effects of a legal change while controlling a number of threats to inferential validity, such as random fluctuations; regression to the mean, or long-term trends (Ross & McCleary, 1983). In addition, although it is not usually done, time-series analysis has the potential to allow the researcher to estimate the cumulative effects of a series of legal interventions introduced at different times over a specified period. In this way, the individual effects of laws which are gradually added to a legislative package focused on drinking and driving or other road user behaviours can be assessed.

Interrupted time-series analysis of traffic safety interventions are usually based on data aggregated into months and utilize Box-Jenkins methods, following the approach of Box and Tiao (1975), incorporating dummy variables and a transfer function to model the impact of the intervention (e.g. Hilton, 1984; Ross, McCleary & Epperlein, 1981-82). However, as McCleary and Hay (1980) and others have pointed out, traffic fatalities are discrete, rare events and thus might be best analyzed as Poisson outcomes. Following this approach, the analysis would ideally be based on daily, rather than weekly or monthly, data and would explicitly model the Poisson process which underlies the generation of fatal traffic crashes.

There are many advantages in the use of daily data. A fundamental advantage is that changes in the time series immediately following the law may be investigated. As Ross and McCleary (1983) point out, change in a time series is not evidence of causality unless the change can be detected in the first postintervention observation. For this reason, data should be collected at the lowest possible level of temporal aggregation. A second advantage is that daily data allow a longer series, thus increasing statistical power. A model based explicitly on the assumption that fatality data follow a Poisson distribution can be fitted to daily fatal crash data, using generalized linear modelling techniques (McCullagh & Nelder, 1983). Use of the generalized linear model allows, in turn, the incorporation of many dummy variables representing the cumulative, permanent effects of a series of laws or legal interventions. (Temporary effects of laws are not modelled in the present analysis.)

For interventions aimed at drinking and driving, the effects of exogenous variables, such as weather conditions, the economy, the number of registered vehicles, can be at least partly controlled by comparing the series for days when drinking and driving are high (Fridays and Saturdays) with the series for other days of the the week, or by comparing holiday periods (Christmas, New Year, Easter) with non-holiday periods. More refined controls can be introduced by decomposing the series into alcohol-related and non alcohol-related crashes, based on blood tests of dead drivers, or based on times and days when drinking and driving rates are known to be low or high (McLean, Holubowycz & Sandow, 1980). Although desirable, these more refined controls were not possible in the present analysis, since only data on total daily fatalities were available.

Legislative Changes

The major new laws, enforcement and publicity campaigns in New South Wales between July 1, 1975 and December 31, 1986 are described below. All major changes are listed, including those not aimed specifically at drinking and driving. One new law (low BAC for novice drivers) is described but not included in the analysis since the daily data were not differentiated by age group. Increasing hotel trading hours in December 1979 is included as one legal change, although this almost coincided with increased disqualification periods for drinking drivers, making it difficult to separate the effects of the two changes.

March 1, 1977: Child Restraint Law #1:

The driver of a motor vehicle must not permit a child under the age of eight years to travel unrestrained if a suitable restraint is available in the vehicle. If a car or station wagon has front and rear seats, the driver shall not permit a child under the age of eight years to travel unrestrained in the front compartment if a rear seat position is available. There are no published evaluations of these laws.

December 17, 1978: Increased Fines For Drinking and Driving:

The maximum fine was increased from $400 to $1,000. No published evaluation was completed.

July 1, 1979: 100 km/h Speed Limit:

This is an absolute speed limit, except where a sign is posted. Previously a "derestricted system" operated in rural areas. No published evaluation was completed.

December 7, 1979: Longer Hotel Trading Hours:

Sunday hotel sessions were introduced from noon to 10 p.m. Smith (1987b) found a marked increase in fatalities and serious injuries for the period 6 p.m. to midnight on Sundays, using as controls, other days of the week, accidents from midnight to 11:59 a.m.. and accidents in Queensland (to control for a general increase in Sunday accidents in other parts of Australia).

December 17, 1979: Minimum Disqualification Periods For Drinking and Driving:

A mandatory minimum disqualification period of three months was introduced for any driver convicted of drinking and driving. No published evaluation was completed.

July 15, 1980: Mandatory Breath Testing After A Crash or Four-point Traffic Offence:

Four-point offences cover all but minor offences. No published evaluation for New South Wales (NSW), except an evaluation of the intensified enforcement of a similar law in Victoria focused on speeding at night, found changes in driver attitudes to speeding and reductions in self-reported drinking and driving. No effect on accidents could be demonstrated (Harrison, 1989).

December 15, 1980: Reduction of the Legal Limit From .08 to .05:

The effects of the lowering of the BAC in NSW and Queensland have been examined by Smith (1987a), who compared daytime and nighttime accidents (fatal, serious injury, minor injury and property damage only) before and after the intervention. He concluded that effects were similar in both states, with hospitalization accidents down about nine percent and fatalities down about four percent, but the changes in fatalities were not statistically significant.

The present analysis, which is more powerful because it is based on a long series of data, shows that a significant effect on fatal crashes in NSW can be demonstrated for Saturdays.

March 1, 1981: T-junction Rule:

This rule requires the driver of a vehicle approaching an uncontrolled T-junction from the terminating street to give way to any vehicle which has entered or is approaching the intersection from the continuing street. No published evaluation was completed.

January 8, 1982: Child Restraint Law #2:

Children under eight years of age were prohibited from being carried unrestrained in the front seat of a motor vehicle, except where exempted on medical grounds or where no rear seat was available. No published evaluation was completed.

July 2, 1982: Child Restraint Law #3:

From this date, a driver of a motor vehicle became responsible for ensuring that any child under the age of 14 years would wear an available child restraint. No published evaluation was completed.

December 17, 1982: Random Breath Testing (RBT):

The law was introduced with extensive media publicity and was enforced in a highly visible and energetic manner by the police (Homel, 1988). Based on an analysis of weekly data, Homel, Carseldine and Kearns (1988) showed that there was an immediate 36 percent reduction in alcohol related fatalities and serious injuries, and an overall reduction of 22 percent in fatal crashes, which was sustained for five years.

More recent data shows that there has been no subsequent increase in fatalities or serious injuries in New South Wales (Federal Office of Road Safety, 1990). Barnes (1988) reports that RBT led to reductions in many different types of nighttime fatal and serious injury accidents, although there was no significant decrease in motorcycle or pedestrian accidents.

The incidence of fatal accidents on main roads decreased more than on straight roads, and accident reductions at intersections depended on the type of priority control used (there was little reduction in accidents at traffic signals, and greater reduction at "give way" signs than stop signs).

January 13, 1984: Bus Priority:

Buses were given priority when leaving bus stops, bus bays, and bus zones. No published evaluation was completed.

August 15, 1984: Publicity Campaign On Wearing Seat Belts Announced:

No published evaluation was completed.

April 2, 1985: Low BAC Limits for Novice Drivers:

There are no published evaluations of the NSW law. Maisey (1984) analyzed the impact of the Western Australian law of December 9, 1982, which introduced a BAC limit of .02 for provisional drivers, and found a net reduction of 17 percent in the expected number of drivers under 18 years involved in nighttime casualty crashes. However these and other results, although consistent with expectations of a reduction in crashes among provisional drivers, failed to reach statistical significance (probably because of the small numbers involved). Smith (1986b) also evaluated the Western Australian law, but considered as well the South Australian and Tasmanian laws.

He was able to show effects on less severe casualty crashes for males in South Australia and Western Australia, but not on the number of drivers and motorcyclists admitted to hospital. Despite generally positive results, Smith concluded that due to various methodological problems, low BAC laws should be regarded as a promising, rather than a proven, countermeasure for alcohol-related accidents among young people.

The present analysis does not include the NSW law of April 1985, since an effect could only be expected for newly licenced drivers, and the daily fatality data are not broken down by age.

March 1, 1986: Demerit Points Plus Fine:

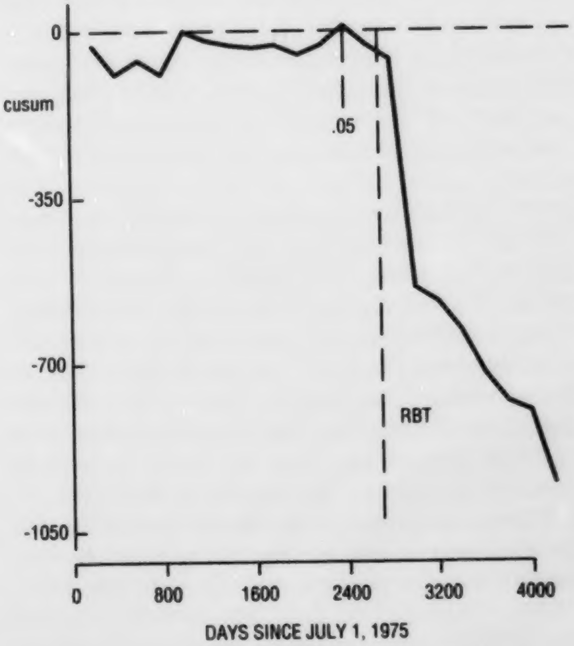
Demerit points and a fine were given for speeding, not wearing a seat belt, permitting a child to travel unrestrained, or for a rider not wearing a motorcyclist helmet. No published evaluation was completed.

Results

Daily fatal crashes for the period (4202 data points) are set out in a cumulative sum (CUSUM) graph in Figure 1. A CUSUM is a series of numbers which are the cumulative sum of the differences between an observed series and the corresponding expected series (Woodward & Goldsmith, 1964). In Figure 1, the expected count was the average of the daily data for the seven years prior to RBT, since RBT was expected to have the biggest impact. However, the shape of the graph does not depend on the choice of the expected count. The date on which the legal BAC was reduced from .08 to .05 is also shown.

The key to interpreting Figure 1 is to regard the number below the zero line as the "accumulated benefit" due to RBT at any time after its introduction. If the CUSUM graph maintains a downward slope (which it generally does in Figure 1), a benefit is still being derived from RBT, in comparison with the average accident level which would have prevailed if RBT had not been introduced. If the graph becomes horizontal, a benefit is no longer being accumulated and accidents have reverted to their pre-RBT level. If the slope actually becomes positive, the accumulated benefit of RBT is being eroded by an accident rate higher that the average pre-RBT level.

Figure 1.
Cumulative Sum Graph for Daily Fatal Crashes in NSW, July 1, 1975 to December 31, 1986.



It is clear from Figure 1 that RBT has had a sustained impact in New South Wales, and that the other intervention marked, the reduction in BAC from .08 to .05, had very little impact. However, the CUSUM for Saturdays (Figure 2), suggests that the .05 law may have had an impact, although clearly RBT is still the major factor. The apparent effect of each of the interventions listed above is depicted graphically in Figure 3. This diagram simply plots mean total daily fatal crashes and mean Saturday fatal crashes for the period each legal intervention applied before the next law was enacted.

Since they were so close in time, the Sunday trading law and the mandatory disqualification law are not distinguished in the diagram. The purpose of the linear model analysis is to determine which laws corresponded to a permanent decline in fatal crashes, either across the whole week, on specific days, or during holiday periods (defined as days falling in the Easter, Christmas, or New Year breaks).

Details of the analysis are given by Homel (1990). The models satisfied all statistical requirements, including linearity and independence of the residuals (using the Anscombe transformation: McCullagh & Nelder, 1983). Although several models fitted the data about as well as each other, the main results are clear: none of the 14 laws corresponded to a statistically significant permanent decline in daily fatal crashes except RBT and the .05 law (in interaction with the day of the week).

Taking into account the effects of the .05 law (and controlling for month of the year), RBT corresponded to a 19.6 percent reduction in total daily fatal crashes, consistent with the figure of 22 percent derived by Homel, Carseldine and Kearns (1988) in an analysis of weekly fatal crashes (which included an extra year of data). However, the effects of RBT were much more marked on weekends and during holidays, consistent with previous analysis which showed that RBT had a more marked effect on alcohol-related accidents. Thus during holidays, RBT corresponded to a 30.4 percent decline, compared with a 36 percent decline for fatalities involving drivers with a BAC of .05 or higher (Homel et al., 1988). Careful examination of the CUSUM figures confirms that these reductions occurred in the first observation period after the law. In fact it appears the decline due to RBT began six days before, due to the intense publicity, but accelerated after police enforcement began.

The .05 law could only be shown to have a significant impact on Saturdays, which is in itself fairly remarkable since the law had minimal formal publicity and was not the target of a special police enforcement campaign. Previous analysis by Smith (1987a) could find no significant effect for fatal crashes, but he did not use time series methods and his analysis probably lacked statistical power for fatalities. The reduction in Saturday fatalities, controlling for the effects of RBT, was 12.9 percent, which also began at the time the law was enacted. From Figure 2, it appears the .05 law had a moderate effect on Saturday fatal crashes, but that the effect was greatly boosted by RBT. This is a reasonable

Figure 2.
Cumulative Sum Graph for Saturday Fatal Crashes in NSW, July 1, 1975 to December 31, 1986.

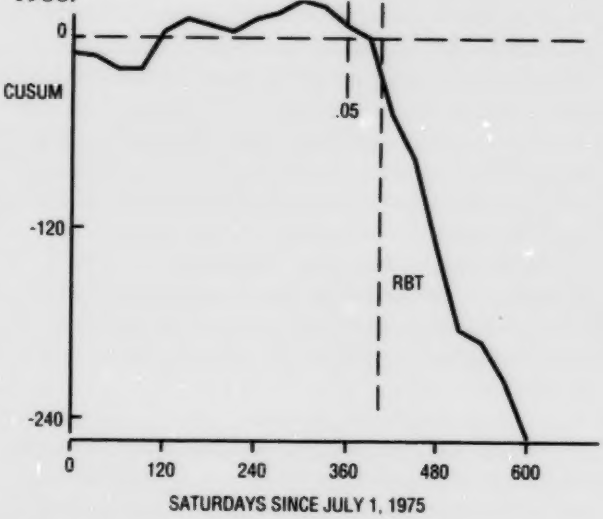
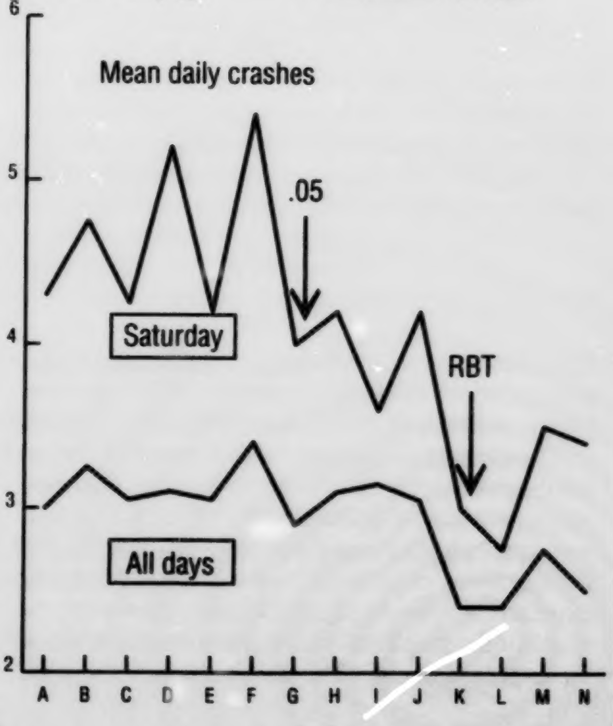


Figure 3.
Fatal Accidents in NSW, July 1, 1975 - December 31, 1986

A - Base Period
B - Child Restraint Law #1
C - Fines
D - 100km/h
E - Minimum Licence Disqualification
F - Mandatory Breath Tests
G - .05
H - T-junction Rule
I - Child Restraints Law # 2
J - Child Restraints Law #3
K - RBT
L - Bus Priority
M - Belts Campaign
N - Demerits Plus Fines



interpretation, since many people did not become aware of the .05 law until RBT was introduced.

Conclusion

Deciding "what works" depends to some extent on what standard of evidence one sets. By any standard, RBT in New South Wales must surely be one of the most effective drinking and driving countermeasures ever enacted anywhere in the world. It is very important to remember, however, that drinking and driving remains a major problem, with 33 percent of fatalities still involving illegal amounts of alcohol (Federal Office of Road Safety, 1990). In addition to RBT, and without relaxing the standards of evidence too far, it is reasonable to conclude that the reduction in the legal BAC from .08 to .05 had a moderate effect on fatalities and injury crashes in NSW and Queensland, despite the fact that relatively few drivers are killed or injured with BAC levels between .05 and .08. Similarly, the introduction of zero or near zero BAC laws for novice drivers appears to have had a measurable effect on the target age groups.

But these legislative measures are about the only successful countermeasures, if one requires evidence of an impact on accidents. The analysis of daily fatal accidents in NSW reported in this paper suggests that increases in penalties, mandatory breath testing after a crash or four-point traffic offence, and a variety of other road safety laws had no demonstrable effect on fatalities. Of course, despite the power of an analysis based on 4202 days, it is important to recall its limitations. Smith (1987b) found a marked effect of the Sunday trading law which was not apparent in the present analysis, probably because it is necessary to examine night-time accidents separately from those occurring in the day or early evening. In addition, the child restraint laws might have been expected to have had measurable effect on accidents. This is especially the case of increases in penalties; indeed, it seems to be true for any measure which fails to increase the perceived chances of apprehension.

The situation is even less positive for non-legislative measures. Despite the excellent work being done in the areas of education in schools, server intervention, and modifications to the roadside environment, no definite claim can be made that any one of these programs has reduced alcohol-related accidents. From a strict road safety point of view, it is a complete mystery why treatment programs have been pursued for so long when even their potential to reduce accidents, let alone their actual performance, is so limited (Didsbury, 1988; South, 1982). For all their difficulties, ignition interlocks are a much more rational alternative (Homel, 1980).

However, when evaluating the effects of school-based education programs or programs to modify the roadside environment or the social environment of drinking, it is important to realize that on theoretical grounds there are good reasons for expecting a measure of success, provided each program is implemented in a sufficiently wholehearted fashion. The same is true for law enforcement based on the general deterrence model. Prior to the introduction of RBT in NSW, there was no empirical evidence that lasting deterrent effects could be achieved (Homel, 1988; Ross, 1982). The main reasons for the long term success of RBT have been the extensive and credible enforcement and publicity. In the same way, it could easily be argued that education programs and environmental measures (those directed at the social as well as the physical environments) will be successful when the barriers to wholehearted implementation have been removed. The problems then become political, cultural, and financial.

In another paper (Homel, in press), I have discussed the implications of Australian attitudes to alcohol for the control of drinking and driving. It is very difficult to see how any measures which involve restrictions on the availability of alcohol, such as increases in the legal drinking age or reductions in hotel opening hours, will be implemented in a sufficiently effective manner to influence road crashes.

This pessimism with respect to alcohol control policies might lead logically to an approach based on modifications to the roadside environment, where one concentrates not on reducing alcohol-impaired driving but on reducing the severity of its consequences. Indeed, this is one logical path, but experience in Victoria suggests that it will be a long, costly, and politically difficult path.

My view is that in the short to medium terms, it will be essential to concentrate on legislative countermeasures, with a particular emphasis on getting RBT "right" in all Australian jurisdictions. At the same time, of course, the major non-legislative approaches discussed above should be pursued vigorously, with a view to removing the barriers to their implementation and demonstrating their accident reduction potential. If RBT can be made to work effectively, there is evidence from NSW that it will help to mold public attitudes in ways which make the target populations for education and server intervention much more receptive (Homel et al., 1988; Loxley et al., in press). In addition, introduction of a uniform .05 law throughout Australia would cost little and would probably have a small beneficial effect on alcohol-related accidents.

Part of the process of getting RBT to work will probably involve making it easier for potential offenders to comply with the law, and more difficult for them to violate it. Many practical and cost-effective things can be done: if effective server intervention is some time away, there should be a concentration on coin-operated breath testers in licensed establishments; if alcohol availability cannot be reduced, at least access to alcohol should not be made any easier; if treatment for problem drinkers is ineffective, ignition interlocks should be seriously investigated. And of course we could always try making public transportation cheaper, safer, cleaner and more convenient.

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References

Ajzen, I. & Fishbein, M. (1980). Understanding Attitudes and Predicting Social Behaviour. Englewood Cliffs, NJ: Prentice-Hall.

Ajzen, I. & Madden, T. (1986). Prediction of Goal-directed Behaviour: Attitudes, Intentions, and Perceived Behavioral Control. Journal of Experimental Social Psychology, 22, 453-474.

Antill, J. (1989). Are You in Control? A Report On The Knowledge, Attitudes and Behaviours of Year 9 and 10 Students Regarding Drinking and Driving. Sydney, NSW: Macquarie University.

Barnes, J.W. (1988). The Effect of the Introduction of Random Breath Testing in New South Wales on Accident Patterns. In Seminar Papers, Volume 2: Road Traffic Safety Seminar 14-16 September 1988 (pp. 125-155). Wellington, NZ: Road Traffic Safety Research Council.

Batchler, M.W. & Grundy, S. (1986). Evaluation of a High School Drink-driving Educational Program. Australian Drug and Alcohol Review, 5, 207-213.

Boughton, C. & South, D. (1983, November). Evaluation of a Drinking Driving Publicity Campaign. Paper presented at the 9th International Conference on Alcohol, Drugs and Traffic Safety, San Juan, Puerto Rico.

Box, G.E.P. & Tiao, G.C. (1975). Intervention Analysis with Applications to Economic and Environmental Problems. Journal of the American Statistical Association, 70-92.

Bush, R. & Harris, J. (1981). Drinking Driver Programs: Briefing Paper No. 1. Sydney: New South Wales Drug and Alcohol Authority.

Cantali, M. & Herbert, D. (1980). Breath-alcohol Vehicle Interlock: Research Note RN 7/80. Sydney: Traffic Accident Research Unit.

Carvolth, R. (1985, August). The Queensland Patron Care Approach to Working with the Liquor Industry. Paper presented to a seminar for researchers and server intervention trainers at the Prevention Research Center, Berkeley, California.

Clayer, S. & Mendoza, J. (1987, October). Drink Driver Education Project: "First Offender Education Package." Paper presented to the Drink Driving Educators' Conference, Maroochydore, Queensland.

Cook, T.D. & Campbell, D.T. (1979). Quasi-experimentation: Design and Analysis for Field Settings. Chicago: Rand-McNally.

Cunningham, J. (1986). 1977 and Beyond - A Review of Roadside Hazard Management in Victoria since the 1977 symposium. Proceedings of the Thirteenth Australian Road Research Board Conference, Volume 13, Part 9, 54-63.

Didsbury, G. (1988). Report on the Evaluation of the Pleasant View Drink Drive Program. Melbourne, Vic: Health Department.

Drug and Alcohol Services Council (1989). Drunk Driver First Offender Package. Adelaide, SA: Author.

Elliott, B. & South, D. (1983). The Development and Assessment of a Drink-driving Campaign: A Case Study. Canberra, ACT: Federal Office of Road Safety.

Federal Office of Road Safety. (1990, January). Road Crash Statistics, Australia. Canberra, ACT: Author.

Gusfield, J. (1981). The Culture of Public Problems: Drinking-driving and the Symbolic Order. Chicago: The University of Chicago Press.

Harden, T. (1987, October). Curriculum Design for Implementation - Some Considerations. Paper presented to the Drink Driving Educators' Conference, Maroochydore, Queensland.

Harrison, W.A. (1989). Evaluation of a Publicity and Enforcement Campaign to Breath Test Any Drivers Detected Speeding at Night. Melbourne, Vic: Road Traffic Authority.

Hawks, D. (1986, August). The Prevention of Alcohol Related Problems Through Legislative Means. Paper presented to the 21st Annual Conference of the Australian Psychological Society, Townsville, Queensland.

Hawks, D. (1990, February). The Locus of Control-Internal, External or Somewhere in Between? Keynote address presented to the 5th International Conference on the Treatment of Addictive Behaviours, Sydney.

Henderson, M. & Freedman, K. (1976). Public Education as a Drink-driving Countermeasure. Australian Journal of Alcohol and Drug Dependence, 3, 107-112.

Hilton, M. (1984). The Impact of Recent Changes in California Drinking and Driving Laws on Fatal Accident Levels During the First Postintervention Year: An interrupted time series analysis. Law & Society Review, 18, 605-627.

Home Safely (1989). A Campaign to Encourage Responsible Family Discussion on the Issue of Drinking and Alcohol. Co-ordinator Home Safely, PO Box 417, Port Melbourne, Victoria.

Homel, P. (1989, November). Hazards in the Prevention of Alcohol and other Drug Problems in the Community - the Example for Server Intervention in the Retail Liquor Industry in Australia and Overseas. Paper presented at the 4th National Drug Educators Workshop, Sydney.

Homel, R. (1980). Penalties and the Drinking Driver: A Study of One Thousand Offenders. (Research Report 7). Sydney: Department of the Attorney General and of Justice, NSW Bureau of Crime Statistics and Research.

Homel, R. (1986). Policing the Drinking Driver: Random Breath Testing and the Process of Deterrence. Canberra, ACT: Federal Office of Road Safety.

Homel, R. (1988). Policing and Punishing the Drinking Driver: A Study of General and Specific Deterrence. New York: Springer-Verlag.

Homel, R. (1990). The Evaluation of Legislative Changes Affecting Road Safety: An Analysis of Daily Fatal Crashes in New South Wales from July 1, 1975 to December 31, 1986. Unpublished manuscript, National Centre for Research into the Prevention of Drug Abuse, Perth, WA.

Homel, R. (in press). Random Breath Testing and Random Stopping Programs in Australia. In R. Jean Wilson & Robert E. Mann (Eds.), Drinking and Driving: Advances in Research and Prevention. New York: Builford Publications.

Homel, R., Carseldine, D. & Kearns, I. (1988). Drink-driving Countermeasures in Australia. Alcohol, Drugs and Driving, 4(2), 113-144.

Homel, R., & Wilson, P. (1987). Death and Injuries on the Road: Critical Issues for Legislative Action and Law Enforcement. Canberra, ACT: Australian Institute of Criminology.

Jiggins, S. (1985, April). RBT in Australia. Paper presented at the National Conference on Alcohol and Road Accidents, Wellington, New Zealand.

Johnston, I.R. (1980, December). Alcohol-related Accidents: Characteristics, 'Causes' and Countermeasure Implications. In Proceedings of the Road Safety Initiatives Commemorative Conference, Melbourne, pp. 421-442.

Johnston, I.R. (1983). The Effects of Roadway Delineation on Curve Negotiation by both Sober and Drinking Drivers. Research Report ARR No. 128. Melbourne: Australian Road Research Board.

Loxley, W., Lo, S.K., Homel, R., Berger, D. & Snortum, J. (in press). Young people, Alcohol and Driving in Two Australian States. International Journal of Addictions, 26.

Mackiewicz, G. (1988). The Efficacy and Educative Value of Coin-operated Breath Testers. Melbourne, Vic.: Road Traffic Authority.

Mackiewicz, G. & South, D. (1989). The Potential Value of Ignition Interlocks for Convicted Drinking Drivers. Melbourne, Vic.: Roads Corporation.

Maisey, G. (1984). The Effect of Lowering the Statutory Alcohol Limit for First Year Drivers from .08 to .02 gm/100 ml. Perth, WA: Research and Statistics Section, Police Department of Western Australia.

McCleary, R. & Hay, R.A. (1980). Applied Time Series Analysis for the Social Sciences. Beverley Hills: SAGE.

McCullagh, P. & Nelder, J.A. (1983). Generalized Linear Models. London: Chapman & Hall.

McLean, A.J., Holubowycz, O.T., Sandow, B.L. (1980). Alcohol and Crashes: Identification of Relevant Factors in this Association. Adelaide: Road Accident Research Unit, University of Adelaide.

Panel on Alternative Policies Affecting the Prevention of Alcohol Abuse and Alcoholism. (1981). Regulating the Supply of Alcoholic Beverages. In M.H. Moore & D.R. Gerstein (eds)., Alcohol and Public Policy: Beyond the Shadow of Prohibition, pp. 61-78. Washington, DC: National Academy Press.

Queensland Drink Driving Project (1989). The Development and Implementation of the Plan Q Safe Strategy Drink Driving Prevention Program. Brisbane, QLD: The University of Queensland and the QLD Department of Education.

Road Traffic Authority of Victoria. (1987, December). Submission to the Social Development Committee of Victoria by the Road Traffic Authority.

Ross, H.L. (1982) Deterring the Drinking Driver: Legal Policy and Social Control. Lexington, MA: Lexington Books.

Ross, H.L. & McCleary, R. (1983). Methods for Studying the Impact of Drunk Driving Laws. Accident Analysis and Prevention, 15, 415-428.

Ross, H.L., McCleary, R. & Epperlein, T. (1981-82). Deterrence of Drinking and Driving in France: An Evaluation of the Law of July 12, 1978. Law & Society Review, 16,345-374.

Saltz, R. (1985). Server Intervention: Conceptual Overview and Current Developments. Alcohol, Drugs and Driving Abstracts and Reviews, 1(4), 1-13.

Sanson-Fisher, R., Redman, S. & Osmond, C. (1986). Rehabilitation of Drinking drivers in Australia and New Zealand. Canberra, ACT: Federal Office of Road Safety.

Smith, D. (1976). Before and After Comparisons of the Introduction of Sunday Sessions in the Perth Metropolitan Area from the Viewpoint of Traffic Safety. Perth, WA: Research and Statistics Division, Road Traffic Authority.

Smith, D. (1979, March). The Introduction of Sunday Alcohol Sales in Perth: Some Methodological Observations. Paper presented to the Symposium on Research Methodology in the Field of Alcohol and Traffic Safety, University of Adelaide.

Smith, D. (1986a, December). Should the Maximum Alcohol Content of Beer Sold in Western Australia be restricted? Paper presented to the Sixth Annual Conference of the Australian Medical Society on Alcohol and Drug Related Problems, University of Western Australia.

Smith, D. (1986b). Effect of Low Prescribed Blood Alcohol Levels (BALs) on Traffic Accidents Among Newly-licensed Drivers. Med. Sci. Law, 26, 144-148.

Smith, D. (1987a, February). Effect on Traffic Safety of Introducing a .05% blood alcohol level in two Australian states. Perth, WA: Western Australian Alcohol and Drug Authority.

Smith, D. (1987b). Effect on Traffic Accidents of Introducing Sunday Alcohol Sales in New South Wales, Australia, Contemporary Drug Problems, 14, 279-294.

Smith, D. & Burville, P. (1986). Effect on Traffic Safety of Lowering the Drinking Age in Three Australian States. The Journal of Drug Issues, 16, 183-198.

South, D. (1982). Priorities in the Development and Implementation of Drink-driving Countermeasures. Proceedings of the Eleventh Australian Road Research Board Conference, Volume 11, Part 5, 44-53.

St. John, L., Edwards, J. & Stenstrom, C. (1987, October). "Are you in control?" An Integrated Secondary Drink-drive Program. Paper presented to the Drink Driving Educators' Conference, Maroochydore, Queensland.

Traffic Board of Western Australia (1989). Evaluation of the Introduction of Random Breathtesting (RBT) in Western Australia. Perth, WA: Author.

Williams, A. (1986). Raising the Legal Purchase Age in the United States: Its Effects on Fatal Motor Vehicle Crashes. Alcohol, Drugs and Driving Abstracts and Reviews, 2(2), 1-12.

Woodward, R. & Goldsmith, P. (1964). Cumulative Sum Techniques. I.C.I. Monograph No. 3. Edinburgh: Oliver & Boyd.

FEDERAL REPUBLIC OF GERMANY

Dr. Bernd Friedel

Dr. Friedel is a director and professor for the Federal Highway Research Institute in Germany.

Intensive efforts have been made in the Federal Republic of Germany over the past 20 years to improve driving behaviour. The basic rationale for these measures was to provide a systematic integration between road safety education, driver training and examination, licencing, safety training, enforcement measures, safety campaigns and driver improvement or retraining programs. This comprehensive concept includes a generally preventive approach in order to influence a large number of drivers, and a more specific type of preventive approach to affect target population groups such as problem drivers.

In one editorial which appeared in the Journal of Traffic Medicine, 1989, Kroj stated that "driver improvement programs will be effective only if they form a functional part of an overall system of providing information, support and feedback. Efficient police controls play as an important a role as does an efficient central system to register offensive and inoffensive modes of road user behaviour." Driver improvement programs cannot be a substitution for legal sanctions and measures.

Legislation

In the Federal Republic of Germany, there is a dual competence of criminal and administrative court. The disqualification of a driving licence presupposes that the person concerned is unfit to drive. Drunk driving is processed through section 315 and 316 of the Criminal Code (StGB). In such cases, the person's ineptitude manifests for the judge the illegal act committed. The Federal Court of Justice (BGH) has fixed the blood alcohol limit 1.3 per mille. The lower limit is 0.3 percent. According to the law, at present, motor vehicle drivers are absolutely unfit to drive at a BAC of 1.3 percent and over. If BACS are lower, additional evidence has to be provided to demonstrate that the driver is unfit to drive.

As a rule, a fine is imposed in cases of drunken driving. In cases involving serious bodily injuries a period of imprisonment may be provided. Pursuant to section 69 (a) of the Criminal Code, the court must fix a period of time during which no new driving licence may be issued (ban between six months and five years). In general, for first offenders, this period is nine months and for second offenders, it is 18 months.

In 1973, the critical limit of 0.8 per mille was introduced as an offence which by statutory definition carries a fine up to 3000 DM (24 A Road Traffic Act). A first offence results in a fine of 500 DM plus a one month licence suspension, a second offence results in a fine of 1000 DM plus a three month licence suspension and for the third offence, secures a fine of 1500 DM plus a three month licence suspension.

According to the Road Traffic Act, the administrative authority has the general power to disqualify a driving licence irrespective of whether a punishable offence was committed or not.

Driver Improvement Programs

The following improvement and rehabilitation courses for alcohol impaired drivers exist in the Federal Republic of Germany:

- Novice drivers have had probationary licences since 1986.
- First-time drinking and driving offenders have been compelled to attend a rehabilitation course since 1978. The objective of this course is to supplement the general preventive effect of fines and licence revocation in connection with the Criminal Code. The program is aimed at changing drinking and driving attitudes. In addition, the participants are motivated to prove that they have succeeded in overcoming their uncontrolled drinking because the certificate awarded after the program can have positive legal consequences for the participant; in particular a reduction in the period of licence revocation.
- Judges, according to German law, are expressly obliged to protect the public from drunk drivers, which is best ensured by licence revocation. In this sense, a driver improvement program can only be regarded as an additional safety measure. If the judge accepts the evidence of improved attitudes, the cancellation period can be reduced.
- Participation in an improvement program for drivers with several previous drinking and driving offences is restricted by assignment criteria and as decreed by the highest federal state authorities. In general, a driver may be admitted to a program after two previous drunk driving convictions and following expiration of the revocation period. Three program models (individual approach, behaviouristic approach, peer model) have been successful.

NORDIC COUNTRIES

Dr. Jarmo Pikkarainen

Dr. Jarmo Pikkarainen is the Director of the National Public Health Institute and President of the International Association of Accident and Traffic Medicine.

BAC Legislation

The mandatory BAC levels vary between the different Nordic countries. Norway was the first to introduce mandatory BAC limits in 1936. All countries have .05 as the mandatory value with the exception of Denmark which is .08. The Parliament of Sweden reduced the mandatory BAC limit to .02 in 1990.

At the end of the 1980's, both Norway and Sweden had accepted breath alcohol as evidence of drunk driving. In Denmark and Finland, breath testing is widely used for screening purposes only.

Distribution, Sales, and Consumption of Alcoholic Beverages

There was total prohibition in Finland, Iceland and Norway, and a rationing system in Sweden, during the first quarter of this century. At present, these countries differ from Denmark by having a state monopoly system on the distribution and sale of all alcoholic beverages. Therefore, strong beer (at least 4.7% vol), wines and spirits (at least 21% vol) can only be bought in state alcohol outlets and not in the grocery stores as in Denmark. This of course reflects both in the consumption as well as drunk driving figures which are also dependent on the different drinking habits between the countries. In Finland, for example, people drink and drive heavily during weekends (Simpura, 1985).

The legal drinking age for on-premises consumption is 18 years in Denmark, Sweden and Finland but 20 years for spirits in Norway. For off-premises consumption there are no age restrictions in Denmark and 18 or 20 years are the minimum ages in Finland, Norway and Sweden for buying beer or liquor, respectively. The Nordic countries differ in respect to the type of alcoholic beverage consumed. Denmark is typically a beer drinking country while Norway, Sweden and Finland are spirits and beer consumers.

Finnish (Nordic) Experience with Drinking and Driving Countermeasures

Supervision of Traffic and Random Breath Testing

Increased supervision of traffic as well as the police practice of submitting any driver to a breath test without suspicion of drinking and driving are probably the most effective weapons to combat drinking and driving according to Finnish experience. Road blocks, where every driver is tested, are especially effective. When the objective risk of detection is 100 percent it has considerable effect on the subjective risk. Although the Finnish police carried out more than a million breath tests among a population of five million in 1989, drivers recommended that more such tests should be done.

In Norway, it has been claimed that "increased surveillance of drinking and driving appears to be the most important future countermeasure against this serious social problem" (Assum, 1985).

Sentences

It is often claimed that the deterrent effect of a sentence is correlated with its severity. The Finnish Ministry of Justice does not share this opinion. At the end of the 60's and beginning of the 70's there was a remarkable increase in alcohol related traffic accidents. Although imprisonment was the most common sentence, the number of arrested drunk drivers increased. Thus, with the introduction of mandatory BAC limits in the legislation the penalties for drinking and driving were also changed. Unconditional imprisonment was partly replaced by conditional imprisonment and fines. An additional reason for this change was the increasing need for prisons. It was calculated that if unconditional imprisonment continued, a prison should be built every second year to house only drunk drivers (Jaakkola and Takala, 1971).

The effects of sentence length and severity on drunk driving has been studied in Norway. By comparing Norway and Sweden which have different penalties for drivers with BACs .05 to .15 (imprisonment vs. fines respectively), it was found that the available data did not indicate a reduction of drunk driving in Norway as an effect of imprisonment (Assum, 1985).

Rehabilitation and Treatment

There is no rehabilitation or treatment for drunk drivers in Finland at present, though there are plans to start such programs on a voluntary basis in the near future. This task may not be easy to accomplish because of the ever increasing number of drivers who are problem drinkers (Pikkarainen, Penttilä, 1988). Our own experiences show that less than 10 percent of arrested drunken drivers are willing to submit themselves to a free medical inspection at the University Central Hospital in Helsinki (Roine et al., 1987).

There is also no legislation for the rehabilitation or treatment of drunk drivers. In Sweden, the Parliament, following a bill from the Government, enacted the principles that a person convicted for drunk driving must prove that he/she is no longer dependent on alcohol prior to licence reinstatement (Sigfridsson, 1990). Decisions on the implementation of such a program will be handed down in mid-1990. However, preliminary studies from Sweden have shown that this kind of requirement can reduce the recidivism rate from 39 percent to 13 percent among drivers arrested with a BAC of at least .15 (Roos, 1989; Kristenson, 1985). A DWI-educational program for imprisoned drunk drivers is running on a voluntary basis in Sweden. An evaluation of this program is expected to be ready in 1990 (Schlyter, 1989). A program for treatment is also planned in Norway (Berg, Skutle, 1985).

Alcohol Policy

The principle of Finnish alcohol policy is to reduce the consumption of alcohol. The results have not been very promising. A state monopoly system is able to regulate the on-premises consumption of alcohol by regulating the number of licenced restaurants and coffee bars that serve beer and wines. Nordic communities have the right not to allow off-premises outlets in their region. After allowing medium beer in grocery shops in 1969, there was a sharp increase in total consumption, with all kinds of negative consequences. This power has been used by the communities to reduce the number of outlets authorized to sell medium beer only. Besides regulating the distribution of alcohol, the state regulates consumption through the price of the very highly taxed alcoholic beverages.

Education

A Finnish working group of the Ministry of Justice responsible for suggesting countermeasures for drinking and driving recommended that the number of lectures on the negative effects of alcohol ingestion, including drunk driving, should be increased in preschools, general schools and in driving schools (Lindholm et al., 1985). This was not accepted by the National Board of Education because of the lack of time in the overall teaching curriculum.

The tobacco industry must warn their clients in the Nordic countries about the unhealthy effects of their products. This is not the case with alcohol. The extension of product liability to alcoholic beverages could be a solution to the drinking and driving issue in the future. Ongoing court trials between smokers having lung cancer and the tobacco industry might initiate problem drinkers or alcoholics with liver cirrhosis to pursue the same legal action.

Information Campaigns

According to the Nordic experience the effects of information campaigns are not convincing. They have not been able to change the attitudes and have not reduced the frequency of drunk driving in the long term. However, in Norway it has been claimed that information on the risks of drunk driving is probably the second most important countermeasure (Assum, 1985).

Concluding Remarks

There is not a single measure that used alone, has been proven to reduce drinking and driving. If a long lasting effect is desired we feel that a combination of preventive measures must be taken. These measures include:

- Education and information on the negative effects of alcohol consumption and drinking and driving commencing at an early stage of life and continuing at least through the school years;
- Increased supervision of traffic coupled with random breath testing. Although very powerful tools, effects are short term if not combined with other countermeasures;
- Rehabilitation or treatment of drunk drivers as a curative countermeasure. The variability of methods used as well as their effects deserves further evaluation. A strengthening of sentences, which although it has not been powerful in reducing drunk driving, is not without effect when combined with effective supervision of traffic to ensure a high risk of detection.

References

Assum T. Fengsel eller bot for promillekjöring. Sammenligning av forhold i Norhe og Sverige. Oslo: Transportökonomisk institutt, 1985;1-27.

Behrensdorff Inge, Bernhoft Inger Marie, Christensen J. Spritkörsel i Danmark. Hvem, hvor meget og hvornår. Gentofte: Rådet för Trafiksikkerhedsforskning, 1989; Rapport 28.

Berg G, Skutle A. Motivational Training for Drunken Drivers. In: Valverius M, ed. Punishment and/or Treatment for Driving Under the Influence of Alcohol and Other Drugs. Current Concepts, Experiences and Perspectives. Proceedings of the International Workshop. Stockholm: DALCTRAF, 1985; 189-200.

Bö O. Screening av alkoholbelastningen blant bilförer i normal trafikk. En undersökelse fra Oslo våren 1970 og 1971. Oslo: Transportökonomisk institutt, 1972;1-37.

Christensen P, Fosser S, Glad A. Promillekjöring og trafiksikkerhet. Oslo: Transportökonomisk institutt, 1978.

Glad A. Promillekjöring i Norge. Resultatene av en landsomfattende vegkantundersökelse 1981 - 82 (Drunken Driving in Norway. The Results of a Nation-wide Road Side Survey 1981 - 82). Oslo: Transportökonomisk institutt, 1983;1-47.

Glad A. Research on Drinking and Driving in Norway. A Survey of Recent Research on Drinking and Driving and on Drinking Drivers. Oslo: Transportökonomisk institutt, 1985;1-29.

Jaakkola R, Takala H. Rattijuoppous 1951 - 1970. Helsinki: Kriminologinen tutkimuslaitos, 1971;1-40. (Raportti M:13).

Kristenson H. Early Recognition and Treatment of Heavy Drinking in the Male Population. Implications for Drunken Driving. In: Valverius M, ed. Punishment and/or Treatment for Driving Under the Influence of Alcohol and Other Drugs. Current Concepts, Experiences and Perspectives. Proceedings of the International Workshop. Stockholm: DALCTRAF, 1985; 223-235.

Lindholm P, Hirsto J, Kantola A, Krootila I, Penttilä A, Pikkarainen J, Takala H, Virolainen P, Hörkkö J. Liikennejuopumustyöryhmän mietintö. Liikennejuopumus. Helsinki: Oikeusministeriön lainvalmisteluosasto, 1985:1-156. (Julkaisu 5).

Pikkarainen J, Penttilä A. Frequency of Heavy and Problem Drinkers among Finnish Drivers. Proceedings of an International Workshop, November 28-30, 1988, Paris, France. (in press).

Pikkarainen J, Penttilä A. Countermeasures For Drinking and Driving - the Nordic Experience. In: Proceedings of an International Congress on Drinking and Driving. Edmonton, Alberta, Canada, March 28-30, 1990.

Roine R, Penttilä A, Karhunen PJ, Kauppila R, Liesto K, Tiainen E, Ylikahri R, Salaspuro M, Pikkarainen J. Alkoholiongelmaisten rattijuoppojen hoitokokeilu (Experimental Treatment of Drink-driving Offenders with Alcohol Problems). Alkoholipolitiikka 1987:52:18-21.

Roos K. In: Proceedings of an International Workshop, November 28- 30, 1988, Paris, France. (in press).

Schlyter F: Educational Programs for Drunken Drivers in Sweden. In: Terenius L, (ed.). Abstracts of a Symposium Current Issues in Alcohol and Traffic Safety, Stockholm: Karolinska Institute; 1989:14.

Sigfridsson S-E. Relicencing of Drunken Drivers. J. Traffic Med 1990;18 (accepted for publication).

Simpura J. Tyypillisen syysviikon juomiskerrat. In: Simpura J, ed. Suomalaisten juomatavat. Haastatelututkimuksen tuloksia vuosilta 1968, 1976 ja 1984. Helsinki: Alkoholitutkimussäätiö; Alkoholitutkimussäätiön julkaisuja No 34, 1985;77 - 101.

Sparrow M, Brazeau R, Collins H, Morrison RA. Alcoholic Beverage Taxation and Control Policies. 7th ed. Ottawa: Brewers Association of Canada, 1989.

Tieliikenneonnettomuudet (Road Traffic Accidents) 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988. Tilastotiedotus (Statistical Report),Tilastokeskus (Central Statistical Office of Finland). Helsinki: N:o Li 1980:34, 1981:30, 1982:29, 1983:, 1984:23, 1985:24, 1986:25, 1987:24, 1988:6.

Valverius M, Moberg J, Lindén Ch. Roadside Survey in Northern Sweden. In: Valverius M, ed. Roadside Surveys. Proceedings of the Satellite Conference to the Eighth International Conference on Alcohol, Drugs and Traffic Safety. Stockholm: The Swedish Council for Information on Alcohol and other Drugs (CAN), 1982;7-32.

FRANCE

Mr. Michel Ledru

Mr. Ledru is with the Direction de la Securite et de la Circulation Routieries in Paris, France.

Introduction

France is part of the European Economic Community. It has a population of 56 million inhabitants. Motorization is important in France, with 75 percent of families possessing a vehicle and 25 percent owning more than one vehicle. There are 31 million drivers and 25 million vehicles in France which means that one million kilometers are driven every day.

Under such circumstances, the problem of road collisions is a major one in French society. Road collisions have stabilized for the past few years, at about 170,000 collisions involving property damage, 230,000 injuries, and 10,500 fatal injuries. This means a daily average of 465 collisions involving property damage, 630 injuries and 29 fatal injuries.

Research related to these road collisions indicates that, in most cases, alcohol was involved and may have contributed to the collision. Bearing in mind that less than two percent of road users drive with a rate of alcohol beyond the permitted limit, alcohol is involved in 10 percent of accidents where property damage occurred, 20 percent in collisions where injuries were sustained and nearly 40 percent in fatal injuries.

French Regulation and Legislation

French legislation has progressively been reinforced in order to make it possible to control road users in any condition. Penalties and sanctions have also been increased along the way. It looks as though it would be difficult to go further, inasmuch as more severe penalties (jail particularly) are already not widely used because of their perceived social impact.

During the last 30 years, several laws have been enacted. These include:

1954: a law which only allows the testing of alcohol in blood in case of a severe accident

1959: a decree punishing drivers who not only drive while intoxicated, but also "under the influence of alcohol", such a state being considered as a new type of offence

1965: introducing alcotest ("the balloon") for checking for alcohol

1970: a law dated 9 July 1970 makes roadside breath testing compulsory and fixes a new legal rate for alcohol: .08. The penalties (offences or summary jurisdiction) i.e., suspension or withdrawal of the licence, only apply following a serious offence or an accident

1983: the law of 8 December 1983 states that a legal rate of 0.4 mg of alcohol per litre of breath (or 0.80 g/l of blood) is considered a violation (no threshold of 1.2 g/l of blood)

1985: starting on October 1st, the maximum level of the fines related to drinking and driving became F 15 000

1986: the law of 17th January 1986 adds an article to the Highway Code, which strengthens administrative measures that can be taken against drivers. It allows the Courts and police officers to immediately withdraw a driving licence for a maximum of 72 hours. It also allows firm suspension of a driver's licence through an administrative process

1987: the law of 10 July 1987 which reinforces the battle against drinking and driving strengthens the sanctions that can be handed down as a result of a conviction

1989: the law of 10 July 1989 stipulates that in the case of repeat offences the convicted driver can apply for licence reinstatement after a 10 yearsuspension period is completed and after a successful medical and psychopower test

Information and Communication

Since 1970, national and local campaigns have been systematically conducted in order to dissuade road users from drinking before driving. Such campaigns are managed by the State, or important associations like, the "Prevention Routiere". They apply either to all drivers, or to certain specific categories, more particularly young people, who represent a special problem.

Whenever legislation is modified press releases are issued that are carried further by newspapers, radio and television.

Conclusion

Alcohol is involved in a number of road collisions in France and many efforts have been made in order to reduce this phenomenon. Of particular note is the introduction of apparatuses for checking and measuring breath samples. Additionally the development of prevention controls and legislation in this area have multiplied.

Drinking and driving accounts for about 4,000 fatal injuries per year in France, and is often associated with other infractions such as speeding, not wearing seat belts, disobeying lights, etc. The battle against drinking and driving remains one of the major directions of road safety policy in France, both at the national and the local level.

UNITED KINGDOM

Dr. James Dunbar

Dr. Dunbar is with the University Department of Forensic Medicine, Royal Infirmary, Scotland

Introduction

Based on the irrefutable links between alcohol levels and motor vehicle accidents, "per se" drinking and driving laws were passed in many countries during the 1960's. In the Road Traffic Act of 1967, Britain introduced a legal limit of 80mg/100ml in the blood of drivers. This law was enforced by the police breathalysing drivers involved in accidents, committing moving traffic offences, or whose driving was impaired. The initial impact, which produced an 11 percent reduction in the national crash toll, appeared to decline although over a seven year period at least 5,000 deaths and 200,000 crashes were judged to have been saved as a result.

The diminishing deterrent effect of the law was attributed to many reasons including the low perceived probability of a driver being breath tested during his or her trip; estimates placed the likelihood at only one chance in hundreds, if not thousands. Concern about the decreasing effectiveness of the 1967 legislation led to the setting up of a Government Committee of Inquiry which reported in 1976. The main recommendations of this Committee were:

- Drinking and driving should be an offence defined in terms of a blood alcohol limit of 80 mg/100 ml;
- A police officer at his or her discretion, should have power to require a breath test of a person who is in charge of a motor vehicle. This meant removal of the present limitations on the power of the police to stop and test drivers;
- A breath sample should normally be used to determine a driver's blood alcohol concentration as well as for roadside screen tests. The fall-back option of providing blood if the breath analysis is over the limit was also recommended;
- Proof of an offence should not be unnecessarily dependent on compliance with procedural requirements;
- An order of disqualification for a year (or longer at the court's discretion) should continue to be the main penalty, in conjunction with fines, but in "high risk" cases,

i.e., those with very high blood alcohol levels and repeat offenders, licences should not be restored until the court is satisfied that the offender does not present undue risk as a driver;

- There should be a continuing program of publicity to educate young drivers, to develop informed and responsible attitudes to drinking, and to enlist public support for the law.

There was no Government action on these recommendations until 1983 when the road traffic law was amended to permit evidential breath testing and the high risk offender was recognized as a driver convicted on two occasions within ten years with an alcohol level of 200 mg/100 ml of blood, or who refused to give a specimen. In the subsequent six years, Government has continued to lag behind public opinion.

In Britain there are 100,000 drinking and driving offences, 1,000 deaths and over 20,000 serious injuries each year. The cost to the country is estimated at $700 million.

Five years ago, Action on Drinking and Driving was established. This is an umbrella group campaigning for changes in the drinking and driving law which brings together individuals and organizations from law enforcement, transport safety and victim groups, alcohol lobbyists, medical organizations, road safety officers and technical advisers. The manifesto of Action on Drinking and Driving is:

- Introduction of random breath testing;
- Lowering the legal limit to 50 mg/100 ml with a zero legal limit for young drivers;
- Improved identification schemes for problem drinking drivers;
- Treatment programs for convicted problem drinking drivers;
- Immediate suspension of the driving licence on giving a positive evidential breath test;
- Increase in the severity of sentencing, particularly where drivers have caused death or injury;
- Improved official statistics on drinking and driving;
- Involvement of the alcohol industry in drinking and driving campaigns;
- Involvement of the insurance industry in drinking and driving campaigns.

This organization, particularly through the victim family group Campaign Against Drinking and Driving (CADD), the British equivalent of MADD, has been successful in capturing public opinion and turning drinking and driving into a current affairs issue. This has led to Government action in a number of areas.

In the five years since Action on Drinking and Driving was established, drinking and driving has diminished. Public attitudes have hardened immeasurably. Drinking and driving is reported and discussed by the media, covered in feature articles, editorial comment and on television news and radio programs. Even soap opera plots refer to it. There is an increasing alliance of interested parties including Government, police, brewers, landlords, the retail trade, motoring organizations, insurers, the churches and the medical profession. This has certainly raised the level of general interest of the drinking and driving issues.

The Department of Transport's regular monitoring indicates that the frequency of drinking and driving has halved over the last five years and drinking and driving deaths fell below 1,000 per annum in 1987 for the first time. Over the last ten years, not only has the absolute number of drinking and driving deaths fallen, but the proportion of alcohol-related deaths has fallen from one-third of all accidents to one-quarter. Police enforcement levels have increased dramatically. On average, the police forces in England and Wales have increased breath testing 30 percent per annum since 1987, though it would be said that there is a wide variation between the best and the worst forces. The Department's own opinion survey show 77 percent of those who admit drinking and driving are in favour of random breath testing. Nevertheless, drinking and driving remains the single most preventable cause of road traffic collisions.

Progress Against Drinking and Driving: the Campaign for Random Breath Testing

Government has been left in no doubt by all relevant individuals and organizations, the media and opposition political parties, that the single most important countermeasure for drinking and driving is random breath testing.(1,2,3)

It is important that the distinctions between unfettered discretion random stopping and random breath testing be understood. Random breath testing means the use of visible, static roadside checkpoints at which all or a genuinely random sample of all drinking drivers passing through are required to submit to a breath test. At the checkpoint, the police do not need specific grounds to suspect a driver of having consumed alcohol in order to require him or her to give a breath sample.

Unfettered discretion would permit the police to operate random breath testing defined as above, but it would also permit them outside the context of a roadside checkpoint, to stop any motorist at any time solely for a breath test.

The overwhelming weight of scientific evidence points to the effectiveness of an increased frequency of breath testing as a deterrent to drinking and driving. The only room for dispute that remains concerns the most effective method of conducting breath tests in order to maximize their deterrent value and to increase the perceived probability of detection.

It is sometimes suggested that random breath testing is unneccessary because the police already possess the power of random stopping or "targeted testing". This argument is invalid. Consolidation of existing police powers to permit the more intensive use of random stopping would reduce the accident toll on our roads, but it would have considerably less effect than random breath testing. New Zealand has conducted intensive random stopping blitzes, but this has been less effective than random breath testing in neighboring Australia. The reason for this is not difficult to find. Random stopping or targeted testing is simply an inferior version of random breath testing. It is more cumbersome to operate, more likely to alienate the public, and also less efficient because it has a lower profile and so less deterrence.

Random stopping is more cumbersome because, having stopped the vehicle, the police then have to examine or question the driver in order to ascertain if there is "due cause" to perform a breath test. This procedure is time-consuming and likely to be irritating to the driver.

It is also less efficient because experience suggests that recognizing someone who may have been drinking simply by what is necessarily a cursory inspection of his or her demeanor is in fact rather difficult. In one Swedish experiment the majority of drivers with alcohol levels greater than 50 mg/100 ml were not suspected at a police checkpoint of having alcohol in their body and therefore were not tested. Nearly half of those in excess of 100 mg/100 ml were similarly unsuspected of having consumed alcohol and they were allowed through the checkpoint without being tested.

Thus, random stopping is clearly likely to result in a substantial number of drivers being taught precisely the wrong lesson - that they can still drink and drive and avoid detection, even at police checkpoints. Moreover, a high proportion of these drivers will be problem drinkers who are known to be particularly likely to cause accidents. Problem drinkers, because of their high tolerance, tend to be able to consume even large amounts of alcohol without obviously appearing to be under the influence and, thus, without arousing suspicion.

Intensive use of existing police powers, in relation to the breath testing of drivers who have committed moving traffic offences, also runs the risk of alienating the public. The public may perceive this use as an overly enthusiastic attempt by the police to penalize trivial traffic violations only to have a legitimate excuse to demand a breath test. In Fife, where the police implement breath testing to a level comparable with random breath testing campaigns in other countries, the local press has published a number of letters of complaint. Police tactics are described as objectionable, and, in some writers' opinions, it would be far better for the police simply to be given the power of random breath testing. Paradoxically, therefore, the more intensive use of existing police powers, including the power of random stopping or targeted testing, is likely to be only partially effective in reducing drinking and driving. Moreover, there is a considerable risk of impairing relations between police and public. In contrast, experience in other countries shows that random breath testing increased in popularity after its introduction and is most popular in precisely those areas where it is most frequently carried out. In summary, compared with random stopping, random breath testing is more effective as a deterrent to ordinary social drinkers; it is a more efficient method of catching problem drinkers; and it is easier and less time-consuming to operate: the simple "blow and go" of random breath testing only taking a few seconds in contrast to the lengthier and more irksome random stop procedure. Experience in other countries suggests that the police did not need additional resources for random breath testing and that random breath testing saves more money than it costs.

Random breath testing is also superior to unfettered discretion, partly for the reasons given above: there is need to maximize deterrence and police may encounter difficulties in knowing which drivers to test. Because unfettered discretion without the legal constraints that can be built into the checkpoint system, is potentially open to abuse, it is likely to be opposed on civil libertarian grounds. With random breath testing there is no possibility of individuals or groups of drivers being unfairly singled out.

Random breath testing is thus the scientifically proven method of reducing drinking and driving. It has been proved successful both in Australia, with a worse drinking and driving record than Britain's, and in Norway and Sweden, with a better record than Britain's. Based on the Swedish experience, the National Audit Office estimated random breath testing would save 500 lives a year in Britain.

In Finland, random breath testing has reduced the number of drinking drivers on the roads by two-thirds, and there is no reason to believe that it would be less successful here.

Action on Drinking and Driving would like to see the law changed to give the police powers to administer breath tests to drivers in the following way:

- If there is reason to believe he or she has committed a moving traffic offence;
- If there is reason to believe he or she has been involved in a road traffic accident;
- If there is reason to believe that he or she is under the influence of alcohol or other drugs;
- If he or she has been stopped at a roadside checkpoint which, by previous decision of the Chief Constable, has been chosen for the administration of breath tests.

Lower Legal Limits

The proposal to lower the legal limit to 50 mg/100 ml or zero legal limit for learner and first year drivers meets with support from the police and the public alike, but has not yet been met by political action in Britain. There is a European Community proposal to lower the legal limit to 50 mg/100 ml in 1991, but this does not meet with support from the British Government. The principle argument has been that since so many offenders clearly ignore the existing limit (nearly 50 percent of offenders had more than twice the present legal limit of alcohol in their blood), reducing the limit would have a minimal effect. The counter-argument is that this preponderance of very high alcohol levels is a reflection more of police enforcement practices than of the actual pattern of drinking and driving.

Until the last two years or so, the level of police enforcement was so low that only drivers who were very clearly impaired were likely to be stopped and tested. The Government's frequency study found that drivers over twice the legal alcohol limit comprised only 11 percent of the over-the-limit drivers on the road, and just one percent of all drivers with any alcohol in their blood.

A wider review of the arguments for lowering the legal limit has been published elsewhere(4).

Improved Identification Schemes for Problem Drinking Drivers

For a quarter of a century, it has been known that problem drinkers are disproportionately represented among drinking and driving offenders. A conviction is sometimes the early sign of alcoholism. In contrast, social drinkers could not reach the alcohol levels of most offenders without unpleasant symptoms. Action on Drinking and Driving suggests that these problem drinkers should be identified and required to convince the courts that their driving no longer represents a danger to other road users before their driving licences are restored. One-third of drivers over the age of 30 had abnormal gamma glutamyl transferase (GGT) activities at the time of their arrest (5). Among drivers who required a driver's licence for their work, and older drivers, a disproportionately high number had raised gamma glutamyl transferase activities and road traffic accidents, but not alcohol concentrations or previous convictions. GGT levels remained abnormal through the period of driving licence suspension(6). Many of these drivers were known by their family doctors to have alcohol problems.

Comparing these results with Finnish studies indicates that random breath testing in Finland deters social drinkers and detects problem drinkers. Problem drinkers are more likely to be driving in the morning traffic when vulnerable road users such as children are about, and are more likely to be detected by random breath testing than by any other police activity. The presence of problem drinkers among the drinking/driving population was officially recognized by the Government in 1983. These "high risk offenders" are defined as drivers with two convictions at 200 mg/100 ml or who refused to give specimens. As such they are regarded as having a medical disability which affects their driving and their licence is not restored until they can demonstrate their drinking is under control. As the result of research in Tayside, the Government has now accepted that the criteria should be widened to include any driver with one offence over 200 mg/100 ml or repeat offenders(7). This will mean that 40,000 offenders a year are referred to the Medical Advisor of the Driver Vehicle Licensing Centre.

Treatment Programs for Convicted Problem Drinking Drivers

Until recently, treatment programs for problem drinking drivers were limited to pioneering work in Hampshire and West Midlands(8,9). As a result of the success of these programs and a review of the Federal German Scheme(9,10), Government intends to introduce a national network of treatment programs for offenders as part of the Road Traffic Law Reform Bill in 1991. Retraining and rehabilitation programs will be run by the Probation Service in England and Wales and the Social Work Departments of Scotland. In addition, all these offenders will be required to retake the driving test.

Immediate Suspension of Driver's Licence

The Road Traffic Law Review recommended that the Bail Act be used in appropriate cases to prevent a person accused of a road traffic offence (including drinking and driving) from driving pending a full court hearing where there was a substantial risk of further offences being committed by that person if he were allowed to continue to drive. The Government's White Paper "The Road User and the Law" endorses this use of the Bail Act. Some forces in England and Wales are also using the Bail Act in this way. In Scotland, the police and the Courts have already taken steps to hasten the legal process in drinking and driving cases. Most offenders now come before the court within 24 to 36 hours of committing the offence.

This change was stimulated by the scientific evidence on administrative licence suspension as a deterrent in Norway and by the concern caused to families of victims who see a driver who had killed their loved one legally permitted to continue driving for three to six months while awaiting trial.

Increased Severity of Sentencing

The current penalties for drinking and driving in Britain are a combination of fine and disqualification for uncomplicated offences. For first time offenders, on average, the fine is $200 and the licence is suspended for not less than one year. Difficulty has arisen where the driver has caused a death whilst drinking and driving. The charge of "reckless driving" has proved unsatisfactory with juries notoriously unwilling to convict on this offence. Pressure from Action on Drinking and Driving and particularly its constituent group Campaign Against Drinking and Driving representing the families of victims, led the Road Traffic Law Review to recommend the creation of a new offence: in effect, causing death by drinking and driving. The Government has accepted this recommendation and is likely to propose this change in the Road Traffic Law Reform Bill.

Improved Official Statistics on Drinking and Driving

Frequency Studies

No adequate frequency studies have been conducted in Britain, but limited studies have been conducted recently by the Transport and Road Research Laboratory of the Department of Transport(11). The 1988 surveys which took place during the traditional drinking and driving hours, 10 p.m. to 3 a.m., found that there was evidence of alcohol being present in 17.3 percent of drivers, approximately five percent of them being over 50 mg/100 ml, 1.7 percent being over 80 mg/100 ml legal limit, and 0.2 percent being more than twice the 80 mg/100 ml limit.

Questions about drinking and driving were also asked in the OPCS Survey on Drinking in England and Wales in 1987 published in November 1988.(12) This found that 22 percent of male and seven percent of female drivers admitted to having driven while over the legal limit at least once in the previous year. Two percent of male drivers said that they had driven regularly while over the legal limit. However, there appeared to be less over the limit driving in 1987 than there had been in 1978.

Fatality Statistics

The main criticism of the drinking and driving statistics in Britain is that they are inaccurate(12). Until recently no one could answer the question - "How many innocent people are killed by drinking and driving?" This is due to the imperfect way that the official statistics are gathered. One early success of Action on Drinking and Driving was to convince the Minister for Roads and Traffic that he should improve the official collection of data so that in the future better official statistics on drinking and driving fatalities would be available. This he agreed to do.

The Insurance Industry

General Accident Fire and Life Insurance was first to join the campaign against drinking and driving by sponsoring two important surveys of public opinion, a symposium for senior police officers, and other initiatives costing several million pounds. These symposia have given many influential police the chance to hear about random breath testing from Australian experts and led to police enthusiasm for legal change.

The Alcohol Industry Gets Involved

The alcohol industry has become involved in a positive way with the Brewer's Society introducing their "Wheel Watch" Campaign in 1987, designed to promote the availability and sale in the pubs of safe drinks for drivers. They have also promoted a designated drivers' scheme. The brewing industry is spending large sums of money (about $25 million a year) on the development and marketing of low and non-alcoholic beer. This is now the most rapidly growing section of the alcohol market. Their "Don't get a ban" message is designed to steer drinkers towards low alcohol and non-alcoholic drinks, and also towards the use of public transportation. Other materials such as drip mats, window stickers and show cards are available for display by publicans.(13)

Conclusion

There has been progress in controlling drinking and driving in Britain over the last decade. A number of initiatives were proposed in 1976 but politicians chose to introduce the least controversial and least effective of these measures. A similar process is recurring in the 1980's, but the difference is the higher public awareness of the issue and greater pressure for effective action. In particular, pressure on Government to introduce random breath testing is irresistible; it is fair to say that Government is isolated, and the will of the people will be done.

References

1. Dunbar, J.A., Penttila, A., Pikkarainen, J., Drinking and Driving: The Success of Random Breath Testing in Finland. British Medical Journal 1987, 295; 101-103.

2. Arthurson, R.M., Evaluation of Random Testing in New South Wales, Australia. Traffic Authority of New South Wales, 1985: 24-31.

3. Aberg L, Engdahl S, Nilsson E., TFB Report No. 12. Swedish Transport Research Board 1986, Stockholm.

4. Dunbar, J.A., Penttila, A., Pikkarainen, J., Drinking and Driving: Choosing the Legal Limits, BMJ., 1987, 295, 1458-1460.

5. Dunbar, J.A., Martin, B.T., Devgun, M.S., Haggart, J., Ogston, S.A., Problem Drinking among Drunk Drivers, BMJ., 1983, 286, 1319-1322.

6. Dunbar, J.A. Ogston, S.A., Ritchie, A., Devgun, M.S., Haggart, J., Martin, B.T., Are Problem Drinkers Dangerous Drivers: An Investigation of Arrest for Drinking and Driving, Serum Gammaglutamyl Transpeptidase Activities Blood Alcohol Concentrations in Road Traffic Accidents; The Tayside Safe Driving Project, BMJ., 1985, 290, 827-830.

7. The Road User and the Law, the Government's Proposals for Reform of Road Traffic Law, London HMSO, 1989.

8. Hampshire Probation Service, Don't Take the Risk: The Course for Alcohol Impaired Drivers, Eastleigh, 1986.

9. Aquarius, Court Alcohol and Road Safety (CARS) Courses. Report on the First Six Courses, Aquarius, Birmingham 1988.

10. Valverius, M.R., Punishment and/or Treatment for Driving under the Influence of Alcohol and other Drugs. Proceedings of International Workshop. Stockholm, 1985.

11. Roadside Surveys of Drinking and Driving, Research Report RR175, Transport and Road Reserach Laboratory,Crowthorne, 1988.

12. Office of Population of Census and Surveys, General Household Survey 1984, HMSO, London, 1985. Foster, G.R., Dunbar, J.A., Whittet, D., Fernando, G.C., Contribution of Alcohol to Deaths from Road Traffic Accidents in Tayside 1982-86, BMJ, 1988, 196, 1430-1432.

13. Ministerial Group on Alcohol Abuse, 1st Annual Report, 1987-88, London, HMSO, 1989 .

CANADA

Dr. Evelyn Vingilis

Dr. Vingilis is Head of the Drinking-Driving Research Unit of the Addiction Research Foundation

Alcohol involvement in traffic accidents in Canada has been well documented (eg. Farmer, 1973; Simpson, 1975; Inter-Ministerial Committee on Drinking and Driving, 1974; Traffic Injury Research Foundation of Canada, 1972) and unquestionably represents a serious traffic problem. Yearly in Canada, with a population of 26 million, approximately 1,800 drinking driving fatal crashes occur. In response to the adverse consequences of impaired driving upon human lives and property, various federal and provincial governments and agencies have implemented measures to counter the problem. Orchestrated attempts to reduce the incidence of driving after drinking and the attendant consequences theoretically address three levels of intervention. Primary intervention strategies function to prevent the potential drinking driver from undertaking such behaviour, usually through public education and general deterrence methods; secondary intervention strategies involve the detection of the drinking driver who is already on the road and his or her subsequent removal, most commonly through legislative and enforcement measures; tertiary intervention strategies aim to reduce recidivism among impaired drivers who have been detected, arrested and convicted, through sanctions and rehabilitation programs. Researchers in the drinking-driving area typically classify countermeasures according to the focus of the approach taken to achieve the objective, that is, a legal, health, public information/education, technological or systems approach (Jones and Joscelyn, 1978). Generally speaking, the impact of most evaluated intervention strategies has been positive but limited and short term.

Legal oriented measures, such as legislation or sanctions to detect and/or deter impaired drivers, have met with results similar to those reported in non-Canadian jurisdictions. Given the low probability of being apprehended while driving after drinking, the introduction of laws aimed at drinking and driving behaviour have had only a short term effect on traffic safety. The problem seems to rest with the discrepancy between the driving public's perceived risk of arrest and the actual risk of detection. Intermittent media campaigns to raise the subjective risk of apprehension and/or visibly increased enforcement activity have been suggested as methods to improve the effectiveness of legislative intervention. Implementation of the breathalyzer legislation in Canada accompanied by a public information campaign, however, evidenced only a short term effect on traffic safety measures and failed to produce a long-term reduction in alcohol-related accidents and fatalities. Countermeasure programs which incorporated a component of publicized increased enforcement activity, on the other hand, were found to have inconsistent results on traffic safety outcome. Two programs witnessed an increase in apprehension rates and a reduction in alcohol-related accidents and fatal crashes, a third provided some evidence of a short-term reduction in impairment among drivers leaving a public drinking place, but another found no positive indicators of an effect on drinking-driving behaviour. The effectiveness of licence suspension as a prevention strategy has not been fully evaluated in Canada. The main drawback of this measure is that the risk of apprehension while driving with a suspended licence is remote. However, the potential of this sanction for increasing traffic safety by the adoption of safer driving habits to avoid detection has been raised. Demonstrations of indirect legal countermeasures indicated that control of the minimum drinking age has some effect on traffic safety, but control of alcohol sales had no observed consistent impact (Liban et al. 1987).

The literature documenting mass media public information/education campaigns against drinking and driving generally concludes that this type of approach has demonstrated improvements in knowledge and attitudes concerning drinking and driving. However there has been little evidence to support reductions in traffic accidents or injuries. Canadian studies demonstrated that campaigns of this nature can be successful in producing some immediate impact on traffic safety measures. The long-term impact on traffic accidents and fatalities, however, remains to be shown (Liban et al. 1987).

Similarly, rehabilitation programs for impaired drivers have generally been viewed as ineffective and Canadian programs evaluated have not been totally inconsistent with this outcome. A general impact on traffic violations, but not specifically impaired driving, was documented in one study, while a reduction of impaired driving recidivism among program participants was reported in a few. Either no progam effect or a negative outcome were found in other programs and systems (Liban et al. 1987).

Only recently have technological measures been incorporated as components of countermeasure programs in Canada, and those employed have met with mixed results. Two demonstrations of a BAC feedback countermeasure offer little support for the efficiency of this measure as an intervention to reduce impaired driving. Little change was observed with the introduction of a self-regulation procedure to avoid impairment of BAC feedback to prevent impaired driving. Videotaped sobriety testing providing evidential material, on the other hand, did show potential as a measure to deter impaired driving (Liban et al. 1987).

Finally, systems countermeasures, usually a combination of the legal and educational approaches have in all cases shown knowledge and awareness changes concomitant with the programs. Occasionally some short-term reductions in traffic crashes or drinking and driving behaviour have been demonstrated. Some of the controlled quasi-experimental programs have shown that change occurred only with the combination of countermeasures, for example, new laws introduced with public education campaigns; self-regulation/BAC feedback co-ordinated with spotcheck enforcement. Otherwise, each countermeasure, individually, has little or no impact (Liban et al. 1987).

These findings would suggest that a systems approach would be the most practical direction for countermeasure development. Yet, even this approach has been unable to provide positive and consistent results. Unfortunately, a systems approach is not always a systematic approach, which attempts to include the many factors affecting drinking and driving crashes. In order to substantially reduce alcohol-related traffic crashes, countermeasures must either reduce the quantity and/or frequency of driving performed by the drinkers or reduce the quantity and/or frequency of drinking done by the drivers. Countermeasures that do not provide appropriate motivation or alternative solutions for this type of behavioural change cannot have much hope for success.

Furthermore, drinking and driving crashes are the result of a complex interplay of drinking and driving factors, and, furthermore, many determinants are involved in drinking and driving behaviour. As can be surmised, when fewer determinants are tackled by a drinking-driving countermeasure, the opportunity for permanent change to occur diminishes. Most often when a countermeasure tackles only several determinants, the others present will shift accordingly to maintain an equilibrium within the system. For example, Colon and Cutter (1983) found the fatal accident data from 50 states and the District of Columbia were significantly and positively associated with beer consumption but were significantly and inversely related to on-premises availability. The authors suggest that people were willing to drive farther to visit licensed drinking premises. Therefore, by controlling consumption through the control of on-premises alcohol without attempting to change drinking customs and drinking and driving norms will not reduce drinking and driving accidents.

Ideally, a systematic approach should entail the combined efforts of government, its agencies and the private sector. A jurisdiction that is willing to approach and tackle the problem at all levels and focus on both the drinking and driving behaviours of its constituents should have a greater opportunity for success, rather than circumscribed, individualistic attempts. Co-operation and collaboration should be the ultimate goal.

In the last eight years, when many different organizations, community-based groups and levels of government introduced multifaceted approaches, we have seen reductions in alcohol-related fatal crashes. We will never know what specific component or components caused the reductions. This reduction, however does point to the fact that large scale efforts in many directions offering the same consistent message to the public can have an impact. The problem for us, of course, will be to maintain this trend.

References

Colon, I. and Cutter, H. The Relationship of Beer Consumption and State Alcohol and Motor Vehicle Policies to Fatal Accidents. Journal of Safety Research, 14: 83-89, 1983.

Farmer, P.J. Review and Evaluation of Legislative and Enforcement Programs Related to the Use of Alcohol and Other Drugs. In: Proceedings of the Conference on Medical, Human and Related Factors Causing Traffic Accidents, Including Alcohol and Other Drugs, Traffic Injury Research Foundation of Canada, Ottawa, pp. 55-69, 1973.

Inter-Ministerial Committee on Drinking and Driving. Drinking-Driving in the Province of Ontario. Prepared for the Provincial Secretary for Justice, 1974.

Jones, R.K. and Joscelyn, K.B. Alcohol and Highway Safety 1978: A Review of the State of Knowledge. Summary Volume. Prepared by the University of Michigan, 1978.

Liban, C.B., Vingilis, E. and Blefgen, H. (1987). The Canadian Drinking-driving Countermeasure Experience. Accident Analysis and Prevention, 19(3): 159-181.

Simpson, H.M. An Overview of the Drinking and Driving Problem. Paper presented in a panel of Young Driver Involvement with Alcohol and Drugs, Canada Safety Council Meetings, Vancouver, October 22, 1974.

Traffic Injury Research Foundation of Canada. Survey of Alcohol Involvement in Fatal Motor Vehicle Accidents in Canada, Ottawa, 1972.

UNITED STATES

Dr. H. Laurence Ross

Dr. Ross is with the Department of Sociology at the University of New Mexico.

Public policy concerning alcohol-impaired driving in the United States over the last decade has been based on the belief that the problem is primarily, if not exclusively, a matter of criminal behavior. This partial and misleading image is largely the consequence of the dominance of citizen-activist groups, who view themselves as victims of crime, in the process of defining the problem and devising countermeasures. It is reinforced by the desire of important vested interests for problem definitions and policies that avoid implicating them. In consequence, the principal thrust of drunk-driving countermeasures in the U.S. has been to threaten would-be impaired drivers with increasingly severe criminal sanctions, rather than institutional changes in, for example, drinking habits and transportation patterns.

Examples of drunk-driving policies being urged and adopted include mandatory jail sentences, at least for repeat offenders, heavy fines and surcharges, and involuntary labor or "community service". In addition, there are trends to reducing the tolerated level of blood alcohol in drivers and reducing the constitutional protections of criminal defendants when faced with drunk-driving charges. There is substantial evidence that impaired driving has been reduced in recent years in the United States, although the causes for this are not well understood. Direct evidence of the drunk-driving reduction comes from two national surveys undertaken 13 years apart by Arthur Wolfe (1974; 1986), which found the proportion of illegally impaired drivers at nighttime hours on weekends declined from 4.9 percent in the first survey to 3.1 percent. Similar conclusions can be derived from data on drivers in fatal crashes: the proportion illegally impaired declined from 30 percent in 1982 to 25 percent in 1987 (Fell and Nash, 1989).

Although it is tempting to attribute this improved experience to the countermeasures being pressed and adopted, several other plausible explanations are available, and these may account for part or even all of the welcome changes. For example, the demographics of the population have been changing, with fewer people occupying the age categories most susceptible to drinking and driving. Moreover, there has been a general decline in alcohol consumption since the early 1980's. This may possibly be explained by greater health consciousness in the population and changing views of the hazards of alcohol consumption in general.

Furthermore, among legal countermeasures, the most impressive appears to have been the nationwide increase in the legal drinking age to a standard 21 years, rather than any of the criminal punishments. The latter interpretation is supported by the fact that the decrease in alcohol-related fatalities was greatest for teenaged drivers. Numerous studies of the impact of specific drinking age increases also support the interpretation (U. S. General Accounting Office, 1987).

The criminal justice centered interventions that appear to have been the most effective contributors to reducing drinking and driving are not those like mandatory jail sentence, which focus on the severity of penalties, but rather those like administrative license revocations and suspensions, which focus on the swiftness and certainty of punishment (Nichols and Ross, 1989). Indeed, one may speculate that increments in punishment severity beyond the point considered fair and just by both the public and its officials may have the intended effect of reducing the swiftness and certainty of punishment and paradoxically lowering the deterrent effectiveness of the legal threat.

The newest development in U.S. thinking about countermeasures to reduce impaired driving has taken a more systematic and institutional viewpoint, linking injuries and fatalities caused by alcohol impairment with other alcohol-related social problems and other sources of injury and death on the highways. The landmark in this thinking was reached in the Surgeon-General's Workshop on Drunk Driving, which took place in Washington in December 1988 despite hostility and lawsuits from the alcohol and advertising industries. The potential for significant reductions in the level of the problem through countermeasures based on this approach appears to me to be the wave of the future.

References

Fell, J, and Nash, C. (1989). "The Nature of the Alcohol Problem in U.S. Fatal Crashes", Health Education Quarterly, Vol. 16, pp. 335-344.

Nichols, J. and Ross, H. (1989). (Citation to be completed)

U. S. General Accounting Office (1987). Drinking-Age Laws: An Evaluation Synthesis of their Impact on Highway Safety. Washington, DC: General Accounting Office.

Wolfe, A. (1974). 1973 U.S. National Roadside Breathtesting Survey: Procedures and Results. Ann Arbor: University of Michigan Highway Safety Research Institute.

Wolfe. A. (1986). 1986 U.S. National Roadside Breathtesting Survey: Procedures and Results. Ann Arbor: Mid-America Research Institute.

CHAPTER III: ENFORCEMENT

ADMINISTRATIVE LICENCE SUSPENSION PROGRAMS: IMMEDIATE SANCTION FOR THE DRUNK DRIVER

NEVADA'S EXPERIENCE

Wayne Teglia

Mr. Teglia is Director of the Department of Motor Vehicles in Nevada

Intoxicated or impaired drivers have been a major problem on Nevada's highways due to their inordinately high contribution to fatal and injury accidents. Alcohol-related accidents, in comparison to fatal accidents, have consistently fluctuated from 58 percent to 68 percent between the years 1978 and 1982. Nevada was more than ready for a tough Driving Under the Influence (DUI) law.

The 1983 State Legislature recognized this intolerable situation and passed a stringent, workable law which took effect July 1, 1983.

The new law included:

- Illegal per se at .10 blood alcohol content.
- Administrative per se which provided for immediate action to be taken by police and the Department of Motor Vehicles to revoke the driving privilege of a driver who submits to a chemical test and who is found to have an alcohol concentration at or above the legal limit (.10). This type of action may also be taken against anyone who refuses to submit to a chemical test (implied consent refusal).

Nevada's law also imposed mandatory jail time on all convictions and increased implied consent penalties. The legislation was specific in not allowing plea bargaining, suspended sentences or probation.

The new law demanded many changes and new administrative procedures by the enforcement community, judicial system, and the Department of Motor Vehicles and Public Safety with limited preparation time. The first six months after the law went into effect was a learning experience for all parties involved.

Since the implementation of the legislation it became common public knowledge, in Nevada, that if you drink and drive you will lose your licence. In a state like Nevada, as well as many other western states, distances can be great between home and job, shopping or other necessary errands. Public transportation is limited in urban communities and nonexistent in many rural areas. Revoking a driver's licence creates a great impact on a person's life and may even jeopardize a person's job.

Nevada's administrative per se law was patterned after Minnesota's two track system which involves administrative action to revoke the driver's licence. The administrative action is completely separate from any court action. Nevada chose to revoke the licence instead of simply suspending same. This places the burden to reinstate the licence on the offender.

Our administrative action revokes a driver's licence for 90 days, on a first DUI offence, if a blood alcohol result is .10 or higher. The first half of this revocation period is "hard suspension," with no possibility of obtaining a restricted licence. In addition to the revocation of the driver's licence, the court may upon conviction sentence the violator to between two days and six months in jail or 48 hours of community service work. The court may also impose a fine between $200 and $2,000 and may require attendance at a DUI school.

The legislation pertaining to a second conviction within a seven year time period of the previous violation, demonstrates the public and lawmakers' intolerance to drinking and driving. Minimum penalties for a second offence include 10 days imprisonment, a $500 fine and one year revocation of driving privileges, during which the offender is not eligible for a restricted licence. Third or subsequent offences within the seven year period of time may result in one to six years in the State Prison, a $2,000 minimum fine plus a three year revocation of the driver's licence. Once again the offender is not eligible for a restricted licence.

If an offender is found guilty of causing serious injury or taking a life, due to the irresponsible act of drinking and driving, the penalties increase substantially. A prison sentence of one to 20 years may be imposed, along with a fine of between $2,000 and $5,000, and a three year driving privilege revocation. The legislation also stipulates penalties for persons found driving on a suspended or revoked licence relating to a drinking and driving conviction. These penalties include between 30 days and six months jail; $500 to $1,000 fine and a one year extension of the revocation period.

Prior to the 1983 DUI law, a motorist could lose his or her driving privilege for implied consent or a court ordered suspension upon conviction. The current law mandates immediate driver's licence revocation on implied consent and illegal per se through administrative action. The following table compares the tremendous increase in driver's licence withdrawal actions after the enactment of the law:

Jan. 1, 1982 - Jun. 30, 1983 (one and a half years)

Driver's Licence Suspensions:

Implied Consent	2,925
Court Ordered	521
	3,446

Jul. 1, 1983 - Dec. 31, 1983 (six months)

Driver's Licence Revocations:

Implied Consent	868
Illegal Per Se	2,185
	3,053

The Department of Motor Vehicles administrative hearings regarding licence revocation for illegal per se and implied consent did increase as expected. It became necessary to hire one additional hearing officer dedicated to the DUI hearings, plus one clerical position for hearing scheduling and one key-punch position to handle the additional driver's licence entries. Over the past several years the number of hearings have stabilized.

The table below identifies the number of hearings which were conducted for both illegal per se and implied consent violations during the period July 1, 1983 to December 31, 1983.

	1983	1984	1985	1986	1987	1988
Illegal Per Se	576	926	1,109	1,321	1,004	996
Implied Consent	278	549	650	703	642	425

A profile of arrests, convictions and licence revocations is depicted in the following chart:

	1984	1985	1986	1987	1988
DUI Arrests	8862	9685	9953	9722	10449
Court Convictions	6720	5791	6797	8043	10040*
Implied Consent Revocation	2103	2684	2436	2070	1732
Illegal Per Se Revocation	7238	8021	7797	6932	7397

*Overstated due to an influx of convictions from prior years.

Although Nevada is one of the fastest growing states in the United States, the fatality rate has not necessarily reflected the increased population and vehicle miles travelled. As an example, Nevada's fatal accident count in 1987 was significantly lower than in 1980 when the state's population was 25 percent less.

The following table demonstrates the decrease in alcohol related accidents after the DUI law went into effect in 1983:

Year	Fatal Accidents	Fatalities	Alcohol Related	.10 or above
1978	271	312	56%	36%
1979	308	365	60%	41%
1980	302	346	58%	37%
1981	258	294	67%	36%
1982	248	280	67%	51%
1983*	220	253	52%	40%
1984	214	247	46%	38%
1985	227	259	51%	41%
1986	203	233	53%	43%
1987	239	262	49%	40%
1988	255	285	48%	37%

*Law enacted July 1, 1983

Since the DUI law was enacted in 1983 there have not been substantial legislative changes, only refinements. Nevada has a good strong law that is producing desirable results. After five years of experience, it is perceived that the administrative per se section has the greatest impact on the DUI offender; it is the backbone of the law. The administrative revocation of a driver's licence is immediate and certain and affects all offenders equally.

When considering the implementation of an administrative licence suspension program in your jurisdiction, the following recommendations should be considered:

- Combine administrative licence suspension with other programs such as harsh criminal sanctions; citizen reporting programs; sobriety checkpoints and increased public awareness campaigns;
- Provide for immediate hearings by hiring sufficient staff, simplifying the hearing process and avoiding issuing a temporary licence pending a hearing. The latter can result in more requests for hearings;
- Provide for an appeal process through the courts in order to satisfy due process requirements;
- Fund costs of the program through reinstatement charges and/or other related fees;
- Incorporate mandatory traffic safety school programs and, if possible, treatment and rehabilitation initiatives.

An administrative licence suspension program is an effective way to reduce alcohol-related collisions. This initiative has been proven effective in every state (currently 28) that has enacted legislation sanctioning this program.

OREGON'S ADMINISTRATIVE LICENCE SUSPENSION LAWS

Gil Bellamy

Mr. Bellamy is an administrator in the Oregon Traffic Safety Commission.

Introduction

Since the early 1980's, Oregon has taken innovative and aggressive measures to attack its drinking and driving problem. A special task force was appointed by the Governor in 1983 to formulate a strategy to reduce the incidence of driving under the influence of intoxicants (DUII). The task force proposed a package of DUII legislation and joined with many groups, agencies and concerned citizens to encourage the passage of over a dozen bills to impact the DUII problem. The most significant and comprehensive of this legislation, Senate Bill 710, was passed in 1983 and enacted in 1984. (SB 710) provided for administrative licence suspension at the time of arrest, mandatory jail or community service upon conviction and evaluation and treatment. Additional legislation dealing with DUII has been passed since 1983 which continues to enhance and strengthen Oregon's DUII statues.

Administrative Licence Suspension

Statutory Provisions and Purpose of Implied Consent Suspensions

Oregon's administrative licence suspension law requires that, in 30 days, the Motor Vehicles Division (DMV) suspend the driver licences of all persons violating the implied consent law. First offenders who fail the breath test receive a 90 day suspension of which the first 30 days is a full suspension of driving privileges. Second and subsequent offenders have full suspension of driving privileges for one year. The purpose of this law is to impose immediate suspensions for both breath test failure and refusal through an administrative system, independent of court adjudication thereby ensuring "swift and sure" sanctions.

Implied Consent Suspension Process

If a person refuses to take a chemical test or fails the test by having a BAC of .08 or more (.04 or more for commercial drivers and any reading for youth under 18 years of age) driving privileges are subject to immediate suspension. The arresting officer must:

- Confiscate any Oregon driver's licence or permit;
- Provide a written Notice of the Intent to Suspend informing the person of both the consequences of refusing or taking the test and the person's rights;
- Issue a temporary driving permit valid for 30 days beginning 12 hours after issuance (if the person qualifies);
- Report action taken to the DMV by preparing a sworn report and delivering it along with the confiscated licence and a copy of the Intent to Suspend.

When DMV receives a sworn report from a police officer, it will suspend the driving privileges of the person on the 30th day after the date of arrest unless it is determined at a hearing that the suspension would be invalid. A person has a right to a hearing to challenge the suspension; however, a written request must be received by DMV within 10 days of the arrest. A person also has a right to appeal a final order issued by DMV by petitioning, within 30 days, the circuit court in his or her county of residence or in the event the person does not reside in Oregon, the circuit court in the county of arrest.

Implied Consent Suspension Lengths and Hardship Permit Wait Times

Breath Test Failure

If the suspension is for taking and failing the breath test and the person is not a repeat offender, the suspension will be for a period of 90 days with a hardship permit wait time of 30 days. However, suspension lengths and hardship waiting times are increased if any of the following have occurred within five years prior to this arrest: DUII conviction in Oregon or any other jurisdiction, enrollment or participation in a diversion or similar alcohol or drug program in Oregon or any other jurisdiction; or a suspension of driving under the Oregon Implied Consent Law for refusing or failing a breath test.

Refusal of Breath Test

If the suspension is for a refusal of the breath test and the person is not a repeat offender, the suspension will be for a period of one year with a hardship waiting time of 90 days. However, suspension lengths and hardship waiting times are increased if any of the following have occurred within five years prior to this arrest: DUII conviction in Oregon or any other jurisdiction; enrollment or participation in a diversion or similar alcohol or drug program in Oregon or any other jurisdiction; or a suspension of driving under the Oregon Implied Consent Law for refusing or failing a breath test.

Suspension Reason	Suspension Length	Hardship Permit Wait Time
Breath Test Failure	90 Days	30 Days
Breath Test Failure-Increased	1 Year	1 Year
Refusal of Breath Test	1 Year	90 Days
Refusal of Breath Test-Increased	3 Years	1 Year

Ignition Interlock Requirements and Administrative Licence Suspensions

Legislation passed in 1989 modified Oregon's ignition interlock pilot project to require that installation of an ignition interlock device (IID) be required by DMV, rather than at the discretion of the courts, for persons convicted of DUII in eleven pilot counties. A person convicted of DUII in a participating county must have an IID installed in any car he or she drives before DMV may issue a hardship permit.

The law also requires that an individual who has been convicted of DUII in a participating county have an IID installed and used in any vehicle he or she operates for the first six months after the completion date of the offender's licence suspension. The device must be installed before DMV will reinstate the offender's licence otherwise the person's driving privileges remain suspended for six months after the termination of the suspension resulting from the conviction.

Police may cite a person for failure to install or use an IID if the person who is required to install a device operates a vehicle without one. If convicted, DMV will suspend the person's driving privileges for six months beyond the completion date of the suspension resulting from the original conviction.

Summary

Since 1982, Oregon has experienced a 15 percent decline in the incidence of traffic fatalities that are alcohol related. Oregon's administrative licence suspension laws are but one component of a comprehensive package of DUII countermeasures including mandatory jail or community service, required evaluation and treatment of all persons convicted of DUII, required education programs for alcohol servers, provisional licencing law, juvenile denial law and ignition interlock requirements, to name a few. Research conducted on the impact and effectiveness of SB 710 indicated the law has reduced the number of breath test refusals and has been effective overall in reducing alcohol-related fatalities and injuries and in creating a perception of risk among the public.

MANITOBA, CANADA

Greg Yost

Mr. Yost is Special Advisor to the Minister of Justice for the Manitoba Department of Justice

In the Canadian Federation, criminal law is the responsibility of the Federal Parliament so that there is one Criminal Code that applies from coast to coast. The Provinces are charged with the administration of justice. Consequently, solutions such as increasing the criminal penalty for driving while impaired are beyond the constitutional mandate of the provinces. Manitoba could not, for example, introduce mandatory imprisonment on a first conviction for impaired driving.

To give the federal government its due, it has steadily tightened the screws on the impaired driver. At present, the offences established by the Criminal Code of Canada are: for a first offence, a minimum fine of $300, for a second offence, imprisonment for a term not less than 14 days and for each subsequent offence, imprisonment for a term not less than 90 days. In addition, an impaired driver who causes bodily harm is liable to imprisonment for up to ten years. If the impaired driver causes the death of a person, he or she faces up to 14 years imprisonment.

In addition, the federal government has now introduced a mandatory order prohibiting a person convicted of a drinking and driving offence from driving for a minimum of three months for a first offence, a minimum of six months for a second offence, and a minimum of one year for each subsequent offence.

Provincial constitutional authority with respect to impaired drivers derives from the provincial government's responsibility for safety on the highways and in particular from the fact that under Canadian constitutional law, a driver's licence is a privilege granted by a province, which can be revoked by that province for cause. The provincial government has a role to play through the Health Department and throughout the Department of Education. In addition, in Manitoba there is a crown corporation, the Manitoba Public Insurance Corporation, which has a statutory monopoly of providing basic automobile insurance within the province.

The provincial anti-drinking and driving program has included a general education program funded by the Manitoba Public Insurance Corporation, which also underwrites part of the cost of high school driver training, including a component on drinking and driving. The province provided a breath alcohol testing van for the city of Winnipeg. This van has been in operation for five years. The program, known as Alert, is well known, and there is an annual pre-Christmas media blitz to remind Winnipeggers that the Alertmobile is on the road every day throughout the holiday season. There is also a program funded by the Alcoholism Foundation of Manitoba aimed specifically at younger drivers. Since 1985, the Alcoholism Foundation has conducted a course that is mandatory for convicted impaired drivers to complete before getting their licences back. The government also supports such initiatives as safe graduation committees and Teens Against Drinking and Driving.

The provincial government imposes its own suspensions on drivers convicted of impaired driving. For a first conviction without an accident, the suspension is six months. The suspensions are doubled where there is an accident involved. For a second conviction the suspension is five years. The suspension is again doubled where there is an accident involved. During the time when a convicted driver is not prohibited from driving under the Criminal Code of Canada, but is suspended under our Highway Traffic Act, he or she may apply to the Licence Suspension Appeal Board to obtain a work permit to allow the person to pursue his or her livelihood.

From the evidence we have, Manitoba's drinking and driving situation is much like that of the rest of Canada. It remains, despite significant progress over the last decade, our most serious criminal offence in terms of deaths and injuries. According to our Chief Medical Examiner's reports for 1979 to 1988, there was a significant drop in fatalities from 1982 to 1985, but the numbers for 1986 to 1988 have climbed again.

Even though there has been increased public awareness of the problem of impaired driving, the increase in the number of alcohol-related fatalities between 1986 and 1988 suggests that more action is required. In the spring of 1988 a new Manitoba government was elected having promised in the election campaign to declare war on drinking and driving. As one of its first actions, the government ordered a complete review of anti-drinking and driving programs throughout the world.

It was that review that focused Manitoba's attention on the potential benefits of the administrative licence suspension and led to the government unveiling a nine-point program last May. Administrative licence suspension and a new program to impound cars driven by suspended drivers are the highlights. This program was designed to increase the perceived risk of apprehension, to speed up the legal process and to increase the severity of the penalties.

To raise the expectations of Manitobans that they were going to get caught, the government purchased a breath-alcohol testing van for the R.C.M.P. and was extended in time for Christmas, random spotchecking province wide.

The province has had a serious problem with suspended drivers flouting their suspensions. The seriousness of the problem was underlined by a CBC-TV investigative report that showed drivers, who had just been suspended, walking out of the courtroom, getting into their cars and driving away. It was clear that the deterrent effect of a suspension was seriously undermined when the drivers believed they could continue driving.

This problem is being addressed by arranging a computer-linkup between the city of Winnipeg police computers, the computers of Division of Driver and Vehicle Licencing, and the computers of the Manitoba Public Insurance Corporation. This will permit the police to have an instantaneous readout of the status of the driver's licence of the registered owner of a car. If the registered owner of a car with licence plate ABC 123 is suspended, the police will pull the car over and check who is driving. This computer link is expected to be operational by June 1990. As well, the province has introduced a program to convert to photo drivers licences starting in 1991 and to be completed by 1992.

As for the planned attempt to speed up the court process, there was an all-out attack on the backlog that had developed in Winnipeg courts regarding, particularly, the processing of impaired driving charges, but in fact covering every type of criminal charge. In a remarkable six-month effort that included extra sittings of the courts, massive overtime in the criminal prosecutors office, our most senior prosecutors, including the Assistant Deputy Minister, taking their share of files, and an overhaul of the entire system for dealing with the cases so that they could be dealt with at an early stage in the process, the date at which trials were being set was reduced from 14 months for first appearance to between 60 and 90 days after the first appearance. The result was that the perception that a drinking and driving charge can be bounced around in the courts so that the penalty, if convicted, can be delayed, had been removed.

More important than the efforts to reduce the backlog in the criminal courts, has been the introduction of administrative licence suspensions. As you are aware, the administrative licence suspension was pioneered by the State of Minnesota in the mid 1970's and it has been refined in the United States over the years. In designing the Manitoba program, we obtained a great deal of assistance from the Government of Minnesota and followed the United States model law as much as we could, given the different circumstances in Canada.

The heart of administrative licence suspension, of course, is that a police officer, where a person has failed the breathalyzer or refused to take a breathalyzer test, follows normal procedures to lay a criminal charge. In addition the officer follows an administrative procedure where, as an agent of the Minister of Highways, he or she seizes the driver's licence. In Manitoba, the police officer also gives the driver a temporary driving permit good for seven days. When that seven-day period is up, the driver's licence is suspended for 90 days. Accordingly, whereas it was possible before last summer to delay the criminal trial and delay the probable conviction and suspension for 14 months, the licence suspension now takes effect after seven days.

As we dealt with this issue, we were aware of the problem of the suspended driver who continues to get behind the wheel. There seemed little point in imposing a suspension if that suspension was going to be ignored. At one stage, we considered impounding the vehicle of a person found driving while impaired, but we concluded that, that would not be the best solution. There were several problems that we considered which led to our rejecting that approach.

First, although Manitoba does not have its own statistics on this specific issue, statistics from other jurisdictions suggest that somewhere between one-quarter and one-half of those who are suspended respect their suspensions and do not drive. It seems unjust to penalize those people by taking their cars away, possibly leaving their families without any transportation whatsoever, even though there may be other validly licenced drivers in the family.

Secondly, where the driver is not the registered owner of the car, the registered owner may have had no idea whatsoever that the driver would get behind the wheel while impaired. The driver probably was sober when he or she got the car. Punishing an innocent registered owner for the actions of another driver seems unjust.

Our solution to this problem was to attack the suspended driver directly. In Manitoba, since the proclamation of the legislation on November 1, 1989, when the police stop a car for any reason and discover that the driver is suspended, they lay the appropriate charge and they immediately impound the car for 30 days. The police call a towing company, give the driver one copy of the appropirate notice, mail another copy to the registered owner, where he or she is not the suspended driver, and give another copy to the towing company. The car stays in the towing company's compound until it is ordered released and all charges are paid.

In the city of Winnipeg, the standard towing fee is $45, the storage is $5 a day and the province charges a $50 fee to offset provincial costs in administering the program. In total, a person in Winnipeg then faces $245 to get his or her car out of the towing company's compound after 30 days. Outside the City of Winnipeg, the charge is often higher as towing is more expensive.

The impoundment procedure is, we believe, unique to Manitoba. It is, like the administrative licence suspension, completely independent of the criminal process although it is administered by the Department of Justice.

It should be pointed out that the government had a relatively inexpensive media campaign devised in order to bring the program to the attention of Manitobans. The introduction of the program had been front page news and extensively covered on television. There was more television, radio and newspaper coverage in June when the government brought three officials from the State of Minnesota to make a presentation to the members of our Legislative Assembly on the administrative licence suspension program. Then there was a flurry of media coverage when the legislation was actually proclaimed in force on November 1, 1989. All of this publicity was, of course, free.

We anticipated that media interest would waiver after about a month and so the government launched a public awareness campaign which consisted of a brochure and billboards. The theme of the government's information campaign stressed how tough the legislation was. The message was distilled to its essence so that the three billboards read: *Driving Over .08 - Immediate Licence Suspension; Refuse a Breathalyzer - Immediate Licence Suspension; Driving While Suspended - Immediate Vehicle Impoundment*.

Public awareness of the program is clearly essential to its success. In that regard, we have been greatly assisted by the Broadcasters Association of Manitoba, which contributed the equivalent of $350,000 in public service announcements and produced a public service ad at no cost to the province. The ad is simple and stresses how tough the legislation is. It follows a road showing a licence being suspended and a car being towed away.

How well has the program been working? It is far too early for a final assessment. Comparative statistics are difficult to obtain because not all Manitoba police forces were computerized until recently. It is our intention to have a complete analysis of the program conducted following the first year of operation. Nevertheless, early indications are that the program has been a great success. It has certainly been well received by the public and the police and has been implemented with surprisingly few problems.

Since the program began on November 1, 1989, there have been 873 administrative licence suspensions imposed. Of these, only 16 persons, that is less than two percent, have requested a review. Ten have asked for a written review and only six have asked for an oral hearing. Only one such appeal was successful.

Has the immediate licence suspension had an effect on the number of impaired drivers? As I told you at the beginning, the city of Winnipeg has been operating its Alertmobile for five years now. For various reasons, the number of days the Alertmobile is on the road varies. In the spotchecks run by the city of Winnipeg, in 1988-89, a total of 148 of the 10,170 drivers checked were charged with drinking and driving offences and another 96 were warned. That means that slightly more than one in seventy drivers were charged under the Criminal Code of Canada and almost one in 50 drivers were warned.

During the 1989-90 fiscal year, there were 8,374 drivers checked. Of these, slightly less than one in 90 were charged under a Criminal Code offence and less than one in 60 were warned. In 1988-89, slightly more than one driver in 30 was charged or warned. In 1989-90, less than one driver in 40 was charged or warned; this is approximately a 25 percent drop.

We have statistics from the RCMP comparing the quarter November 1988 to January 1989 with the quarter November 1989 to January 1990 for all categories of impaired driving offences as reported by all the RCMP detachments in the province. In 1988-89, there were a total of 712 such charges laid. In the comparable period, 1989-90, the total was 627. This is a reduction of 11.9 percent. In Winnipeg, there were 580 charges of impaired driving in 1988-89 and 468 such charges in 1989-90; a reduction of 19.3 percent.

How well has the impoundment program been working? There were 706 total reported seizures from November 1989 to January 1990 province wide. During that time, 121 registered owners have appealed. Of those who appealed, 64 were successful in having their cars released early.

Has this tough new program had an effect upon the number of suspended drivers? In the information that we have received from the RCMP, the total number of charges of driving while prohibited in the three month period since the program began fell from 117 to 102; a reduction of approximately 13 percent.

Interestingly, in the information that we have revealed from the City of Winnipeg regarding the operation of the Alertmobile, the number of charges of driving while suspended or prohibited fell from a little more than one out of every 120 drivers stopped in 1988-89 to just less than one out of every 200 drivers stopped in 1989-90; a reduction of about 40 percent.

When we designed this program, we anticipated that it would take a year before the severity of the measures would be understood by the public and we would begin to see a drop in the number of people charged. It is encouraging, despite all the reservations that must be made about the preliminary nature of the statistics and the small time frame involved, to see these reductions in the number of charges of impaired driving and in the number of charges of driving while suspended.

SOBRIETY CHECKPOINTS: AN INTERNATIONAL REVIEW OF HISTORY, PRACTICE AND EFFECTIVENESS

ALBERTA'S CHECKSTOP PROGRAM

Constable Don Hughes

Constable Hughes is the Member in Charge of the Breathalyzer Section of the City of Edmonton's Checkstop Program

Introduction

Scenes of tragedy, property damage, injury and death are unfortunately all too common for people involved in law enforcement. The cause is usually drinking and driving.

Alberta traffic collision statistics in 1988, which are the most recent figures available, show there were slightly over 110,000 traffic collisions that year in the province. Of these 395 were fatal collisions and slightly less than 13,000 were injury collisions.

Of drivers involved in injury collisions, 11.3 percent had consumed alcohol before the crash and of drivers involved in fatal collisions, 29.7 percent had been drinking alcohol. Overall, 11.8 percent of the drivers involved in casualty collisions were judged to have consumed alcohol before the crash.

How we deal with the foregoing in this province is "The Checkstop Story."

What is Checkstop?

Checkstop is a prevention-oriented program conceived and sponsored by the Government of Alberta. The strongest mandate of the department of the Solicitor General is the detection and apprehension of individuals who operate a motor vehicle while impaired.

While the primary purpose is to remove the impaired driver from our streets, Checkstop is also designed to bring to the attention of all Albertans the dangers and consequences involved when drinking and driving are combined. The intent is to change public attitudes toward drinking and driving rather than just obtain convictions.

Why a Checkstop Program?

In 1970 the World Health Organization reported that in all the advanced countries the greatest loss of life in the 16-25 age category resulted from traffic fatalities. Studies indicated that excessive speed and liquor consumption were the primary causes, with alcohol being involved in 60 percent of all traffic fatalities.

In 1972, the Attorney General of Alberta met with senior Alberta police officers and expressed a need for a prevention program which would educate the public about the consequences of drinking and driving. It was recognized that at this time, police road checks were directed toward equipment and licencing with appropriate police action being taken should liquor offences come to light. The Attorney General, however, was anxious to develop a roadside check program which was highly visible to the public and was indicative of police practice of targeting the impaired driver.

Concern existed as to the extent of public acceptance for this positive approach. At the time there seemed to be public approval, however research had shown that police road checks for this specific purpose had not been used in Canada or the United States to any extent. To be effective, it was agreed that the program would require public acceptance.

A study conducted on behalf of the Government of Alberta in September 1973 showed that Albertans, although unaware of the magnitude of the drinking driving problem, were concerned and wanted increased police action in this area.

Compulsory breath tests, increased penalties and automatic suspensions had not reduced the problem related to the drinking driver. It was felt that the severity of the punishment was not necessarily the best deterrent. It was thought that increasing the probability of apprehension could be more effective. Therefore, attention was focused on developing a new program.

How does Checkstop Work?

Law enforcement agencies regularly patrol their streets and when an impaired driver is detected, action is taken. Checkstop is intended to supplement, not replace this normal police function. Participation in the Checkstop Program by any Alberta police service is entirely voluntary and depends upon the availability of manpower and equipment. The primary participants in the program are the Royal Canadian Mounted Police, who perform the provincial police function in Alberta, and the larger municipal police services. Participation of the smaller municipal police services is encouraged.

The office of the Alberta Solicitor General has supplied each participating police agency with a variety of Checkstop equipment, including signs which clearly indicate the activity of detecting impaired drivers. Police are encouraged to adopt a low-key approach which will assure cooperation from the motorist. It is made quite clear to the motorist that the police are looking for impaired drivers. Under normal circumstances, therefore, the delay is minimal. Checkpoints are established at random locations where several vehicles may be stopped at one time without interference with normal traffic flow.

How did Checkstop Begin?

Its Beginning - 1973

The Solicitor General for Alberta became responsible for law enforcement in Alberta in September 1973. On October 5th, the then Solicitor General, the Honourable Helen Hunley, publicly announced commencement of the Checkstop Program. It was described as a massive, province-wide education and enforcement campaign aimed at reducing alcohol related traffic deaths. Miss Hunley outlined a two-pronged campaign comprising of an immediate intensive information phase to acquaint the driving public with the purpose of the program followed by a major crackdown by police forces in the province which would commence on November 1, 1973.

Checkstop Today and Its Resources

Today the Checkstop Program is being operated by all Alberta police agencies on a year round basis. In support of Checkstop activities, the Alberta Solicitor General provides police forces with a variety of equipment including;

- Highly visible Checkstop vests;
- Checkstop "sandwich board" signs;
- Multi-directional windmaster signs; and
- Electrostatic Checkstop vehicle decals;

Some twenty specialized mini-vans displaying the Checkstop logo have been provided to all municipal police forces and the RCMP for use at Checkstop locations and community presentations. The vans serve as a "moving billboard" in order to enhance public awareness of the program. As well, mobile breath alcohol testing vehicles have been provided to three Alberta cities: Edmonton, Calgary and Lethbridge. These vans facilitate roadside breath testing.

Emphasis has been placed on increasing public awareness of the Checkstop Program and the social problem of drinking and driving. Advertising innovations such as year-round billboard advertising, Checkstop banners placed on overpasses in cities and highways across the province, Checkstop messages appearing on public transit buses, permanent highway signs posted at the entrances to the major cities in the province and Checkstop messages located in major sporting facilities have been set in place. Additionally, portable displays have been developed and have been used at various exhibitions, conventions, conferences and public presentations. Promotional items such as Checkstop key chains, lapel pins, window and bumper stickers and the like have been distributed at various outlets, again to heighten public awareness. In essence, every attempt has been made to have people think and talk about the issue and be more responsible.

What Legislation Pertains to Checkstop?

The legality of random vehicle stops or spot checks has been challenged at various court levels in Canada. Provincial legislation provides that every driver shall, upon being signalled or requested to stop by a peace officer in uniform, bring his or her vehicle to a stop and furnish any information respecting the driver or the vehicle that the peace officer requires.

The Criminal Code of Canada provides that if a peace officer reasonably suspects that a person either operating or having care and control of a motor vehicle has alcohol in his or her body, the officer may demand a sample of the suspected offender's breath, suitable for roadside analysis. The legislation further indicates that if a peace officer has reasonable and probable grounds to believe that a person's ability to operate a vehicle is impaired, the officer may demand a breath sample suitable for proper alcohol analysis.

Challenges in respect to the Canadian Charter of Rights and Freedoms have as well been made at the various court levels but in summation, the Courts have ruled in favour of Checkstops because of the importance of highway safety and the need to curb the serious drunk driving problem in the country.

In August 1985, the Supreme Court of Canada (Regina v. DEDMAN) endorsed the use of Checkstops. The Court ruled that:

> *Police have a common-law power to conduct random vehicle stops provided they are: incidental to a well-publicized program aimed at reducing impaired driving and conducted at fixed locations where police believe there have been instances of impaired driving or alcohol-related accidents.*

This ruling was the basis for continued operations. Various other decisions have supported the program.

Conclusion

Measurement of Effectiveness

If success is to be measured by favourable public reaction and cooperation, the Checkstop Program has been most successful.

- Education

  The success of the educational phase of the program has been well documented. The excellence of its timing and content is largely responsible for the immediate public acceptance of the program objectives. The Checkstop logo is now a familiar and accepted symbol indicating our concern for the problems related to drinking and driving.

  The Checkstop Program continues to receive full support from all media sources and has received support from the Alberta Chamber of Commerce, the Alberta Safety Council, the Alberta Motor Association, the Alberta Hotel Association, the Canadian Restaurant Association, the Alberta Liquor Control Board and organizations such as PAID (People Against Impaired Drivers).

  One only has to be involved in a Checkstop operation on a roadway in this province to see the support by the citizens of Alberta.

- Enforcement

  Although in excess of 400,000 vehicles are checked each year at Checkstop locations, the number of individuals charged has decreased. More importantly, we see that the number of persons charged with impaired driving in Alberta has decreased dramatically, from 24,907 in 1984 to 18,103 in 1988. We can recall that in each of the years 1978 to 1982 when a Checkstop Study was conducted, in excess of 22,000 persons were charged with impaired driving.

The Future of Checkstop

Other program initiatives that have been developed are evidence that there is a bright future for Checkstop and its various facets in being an effective impaired driving prevention program. Programs such as vehicle immobilization, random breath testing and designated driver will do much to enhance the Checkstop Program and more importantly address the concerns of the citizens of this province in ridding our streets of this menace - the drinking driver.

ONTARIO'S R.I.D.E. PROGRAM

John Bell

Mr. Bell is the Manager of Program Development for the Ministry of the Solicitor General in Ontario, Canada.

Background

In the summer of 1987, the Policy Development and Coordination Branch of the Ontario Ministry of the Solicitor General was asked to review the needs of police forces as they related to enforcement of the existing drinking and driving legislation. The Branch was to formulate a submission for Management Board that would provide the police forces with the necessary tools to enhance existing enforcement techniques or to create enforcement programs in communities where none existed.

During the period leading up to the onset of this program, there were increasing demands on government to respond to the public outcry against drinking and driving. The public concern was reflected in several fashions. Press conferences and letters to the editors of local newspapers were frequent, along with correspondence directed to the Premier and several Ministries including Solicitor General, Attorney General, Transport and Communications, Corrections and Health.

One of the most significant elements in the lobby movement is a group known as People to Reduce Impaired Driving Everywhere or P.R.I.D.E.. This is a volunteer organization which grew out of collective lobbying action by victims. The founding member and current president, Mr. John Bates of Toronto, is known throughout Canada as the spokesperson for victims of drinking and driving crashes.

Mr. Bates has been a friend to, and lobbyist on behalf of, the law enforcement effort to remove drinking drivers from our highways. He has a network of over twenty community action groups, primarily in southern Ontario. These groups are very active and accomplished lobbyists and have made good use of several media (i.e. press conferences, newspapers, radio, T.V., letter writing, public forums) to relay their message. They are extremely supportive of R.I.D.E. and the activities of their local police.

John Bates was the advocate who lobbied the government in the early eighties to form the Premier's Task Force on Drinking and Driving which was chaired by Roy McMurtry, the Attorney General for Ontario.

One of the recommendations from the Task Force Report which was implemented in 1983 was the formation of the Drinking and Driving Countermeasures Office which still exists within the Ministry of the Attorney General.

Following consultation with police forces from across the province, the Ministry of the Solicitor General decided that the most effective way of making a significant impact on this issue was to enhance and extend what had become a very successful program in the Toronto area known as Reduce Impaired Driving in Etobicoke (R.I.D.E.). The Ministry's goals were to have R.I.D.E. active in every community in the province and to have it expand to a year-round program. This, of course, required tremendous resources to mobilize the police community in this manner. To properly understand this process, a synopsis of the R.I.D.E. program follows.

The Origin of the R.I.D.E. Program

The Reduce Impaired Driving in Entobicoke Program began over 13 years ago in the City of Etobicoke. The community-based concept behind that program formed the basis for the current provincial anti-drinking and driving campaign, Reduce Impaired Driving Everywhere (R.I.D.E.).

Created by the Entobicoke Safety Council, the Addiction Research Foundation and the Metropolitan Toronto Police Force, the original R.I.D.E. program exemplified the union of the community, the police and the corporate sector to combat a social problem that had reached into every corner of the community.

The need for some significant intervention came at a particularly interesting time. Throughout the late 1970's and early 80's, the rate and actual number of drinking and driving crashes, serious personal injuries and fatalities were increasing at an alarming rate. This trend in crashes peaked in 1982. The Ontario Provincial Police began their pilot project for R.I.D.E. in the London area in June, 1983 and from there it spread to all districts by 1984.

The concept behind R.I.D.E. is based in traditional enforcement techniques, with an innovative twist. There was a concern from many of the people involved in the development of the program that drivers would complain about the inconvenience of being detained for the spot-check. This was an issue even in the 1970's, before the Canadian Charter of Rights and Freedoms was in force.

It was felt that this discontent would eventually bring negative media attention toward the program. Since all vehicles travelling through the check-points are screened, it was felt that, to avoid criticism from the general motoring public, some reward was needed for those drivers who were found to be sober. The incentives (i.e., ice scrapers, key chains and permit holders), handed out by the police, served to put a positive image on the random screening of individual drivers. This "thank you to sober drivers" slant on the program was well received by the public and the media.

The Sudbury Regional Police and the Addiction Research Foundation of Sudbury, represented by Regina Caverson, have been operating a program known as the "Thanks For Being A Sober Driver". This has been a tremendous success in the community and has spread throughout northern Ontario.

The Provincial Initiative

On August 24, 1987, Premier David Peterson announced that there would be a comprehensive two-year funding package available to community groups and police forces. This funding was dedicated to the reduction of drinking and driving in Ontario. The announcement was reinforced in the Throne Speech on November 3, 1987. The package was designed with several elements including enforcement, training of police officers and public education.

On January 12, 1987, Management Board assigned a total budget for the program of $15 million, over two years, beginning April 1, 1988.

The purpose of the provincial initiative was to have R.I.D.E. move from its traditional role in a few communities of a Christmas campaign to a year-round, province-wide program.

The operating time of R.I.D.E. was expanded to address the peak of the alcohol-related crash season which runs from the Victoria Day weekend through Thanksgiving. This program was developed with the following five major components:

Part 1: The Ontario Provincial Police

The largest allocation was made to the Ontario Provincial Police to enhance their capacity to deliver the program throughout the province.

Sixteen teams, each consisting of six police officers, were created to work specifically on R.I.D.E. which gave the program complete provincial coverage. Expenses were incurred for additional capital expenditures such as vehicles and safety equipment. As well, due to the expanse of some of the districts which the teams patrol, a travel budget was provided for each team. It was the responsibility of each team to complete a local needs assessment and plan and carry out the roadside check-points. They were also expected to maintain a suitable level of awareness around the program by utilizing the local media to promote their activities.

The total cost for this portion of the program was $6 million per year. This is the only component that received ongoing funding beyond the two year program.

Part 2: The Centre of Forensic Sciences

The Centre of Forensic Sciences received funding in order to support the significant increase in the demand for training, purchase of breathalysers, service for units and expert testimony during trials.

Two additional two-week courses were held to train police officers in the use of the breathalyser. Three toxicologists were hired to provide this training, to assist in a serious backlog in the Toxicology section and to testify as expert witnesses in trial matters. The cost of this portion of the program is $150,000 annually.

There were 19 Ontario Provincial Police (O.P.P) detachments and 22 municipal police forces, with a complement of more than five officers, without breathalysers. (Forces or detachments with less than five officers were considered unable to deliver a program.) It was felt that at least half of these detachments/forces would need a breathalyser unit.

The R.I.D.E. teams within the O.P.P. required 16 additional breathalyser units, one per policing district. Because all forces realize that this type of equipment must also be updated and replaced periodically, $300,000 was allocated for the purchase of new breathalyser units over a two-year period.

Part 3: Public Awareness

R.I.D.E. is based on the concept of increasing the drinking drivers' perceived risk of apprehension. Therefore, an effective media campaign must accompany any enforcement activity. An allocation of $740,000 was provided over two years for the Ministry to create awareness throughout the province. This effort was augmented significantly by the efforts of public information officers at provincial police detachments and municipal police officers who had promoted their programs at the community level.

During the first year of the provincial advertising campaign, eight public service announcements were created and distributed to the media throughout the province. Announcer-read media buys were arranged by the Ministry of the Solicitor General's Communications Branch through the Advertising Review Board (A.R.B.) and McKim Advertising, the agency of record for the government.

A budget was set for $100,000 to provide air time for the July 25, August 29 and October 3, 1988, weekends and a commitment for public service announcement time was requested. This covered all major markets in Ontario and the native areas with the assistance of Ethnic/Ad Incorporated.

Late in the first year of the program, a request for proposals (R.F.P.) was developed and Saffer Advertising was contracted to develop the creative work for a province-wide campaign for the spring of 1988. The R.F.P. budget was established at $145,000. Saffer developed a radio campaign of 13 pre-recorded public service announcements (P.S.A.). Radio time was purchased through the A.R.B. for the Victoria Day weekend. To complement the radio campaign, a poster was developed using the slogan "R.I.D.E. - EVERY NIGHT, EVERY WHERE".

To increase the reach and frequency of our purchased air time for radio commercials, tapes of the P.S.A.'s were shipped to each police force and the R.I.D.E. coordinators so that they could seek media support at the community level through no-cost public service announcements. The tapes were also distributed to the anti-drinking and driving community and student groups for their use. This was well received by the police and the community.

In September, 1989, Marketing and Promotion Group (M & P.G.) was contracted to the Ministry to create an advertising and marketing plan for R.I.D.E., focusing on Christmas 1989. This initiative saw the production of a series of ten public service announcements (seven English and three French) recorded by sports and music celebrities with whom the target audience (16 - 24 year olds) could easily identify. Two new R.I.D.E. posters were developed and they received extensive distribution throughout the province.

It was the first time the Ministry logo - Partners Against Drinking and Driving - was used. The Ontario Association of Chiefs of Police was the Ministry's partner in this venture. The response to the "partnership concept", the police and community groups working together to combat drinking and driving, has been very positive.

Part 4: Impaired Driving Initiatives Coordinator

An Impaired Driving Initiatives Coordinator was hired to manage this program in November 1988. His role was to provide consultative services to each project and to maintain the financial records for each grant. In March 1989, the grant program and the Coordinator were transferred into the Policing Services Division. At that time, the Coordinator became the Acting Manager of Program Development for the Division and has since retained responsibility for the program.

Part 5: Municipal Grants Program

- *Program Objective*

  The objective of the program was to encourage the implementation of municipal police force impaired driving enforcement activities and consequently reduce the incidence of impaired driving and alcohol-related motor vehicle crashes.

- *Program Description*

  The program was designed to provide one-time conditional financial assistance, over two years, for new or enhanced municipal police force impaired driving enforcement initiatives.

The Ministry provided financial assistance in three ways: staff overtime, equipment and advertising and promotion. The following information is a more detailed description of each funding category.

Funding Categories

CATEGORY 1: Staff Overtime

The vast majority (77.6 percent) of the 125 police forces that existed at the inception of this program were staffed with less than 50 officers. As a result, most police forces could only operate the program by bringing officers in on their own time and by paying them overtime wages.

This became an even greater issue during the summer months, for two reasons. The first is that the summer months are when most officers take holidays. This situation creates a manpower shortage for patrol functions for all forces in any given year. The second concern is that calls for police service are the highest during the summer which further decreases availability of staff for special enforcement projects such as R.I.D.E.. This period of time, particularly during long weekends, is when drinking and driving is most common. In the *Drinking and Driving Statistical Yearbook, December, 1987* published by the Ontario Ministry of the Attorney General, it was reported that the long weekends from Victoria Day to Thanksgiving, account for a disproportionately large number of drinking and driving crashes.

In order to meet the needs of the police forces, part of the grant program was designed to allow the police forces to charge-back overtime hours for police officers during the actual hours of enforcement. This did not include costs for court overtime or support staff (i.e., dispatchers, secretarial help for court preparation), auxiliaries and cadets.

CATEGORY 2: Equipment and Supplies

In order to respond to equipment needs of the police forces, a second element in the grant program was offered to the Chiefs of Police. Application could be made for the force to purchase approved equipment.

The approved equipment included: roadside screening devices; service equipment and supplies; safety equipment for officers; roadside signs and warning devices for the spot-check lane; lease or purchase of R.I.D.E. dedicated vehicles. Several other items were reviewed, through consultation with the force, on a case-by-case basis.

CATEGORY 3: Advertising and Promotion

The third area of concern for the enforcement element was to ensure that the program was advertised so that the public would not be delayed at check-points without realizing why.

During the early part of the program, several pending appeals in the Supreme Court of Canada required that each R.I.D.E. check-point be advertised. This meant that there was a need for local promotion of R.I.D.E. by each force. Although many court cases were lost, there was a benefit. The success of this program relies on increasing the drinking-driver's perceived risk of apprehension and many forces were called upon to increase their interaction with the media, where it had been limited in the past.

It was also widely felt that if the advertising was to be effective, it needed to be local. This would notify the potential drinking-driver that the R.I.D.E. program may be in operation in their community at any given time.

The concept of the year-round campaign was one which was new to most communities. In the past, these campaigns had been conducted almost exclusively during the festive season. There was a need for public awareness to be created around the expansion of the operating time of the program and the specific operation of the program.

An additional concern was that the program should have some educational value. It is widely recognized that the costs associated with prevention are significantly lower than those needed for prosecuting cases under the Criminal Code of Canada. It was felt therefore, that each force should have the opportunity to launch a public awareness campaign.

Police forces were allowed to seek funding in this area up to 15 percent of their overall allocation.

Program Design and the Distribution of Funds

This program was designed by the Policy Development and Coordination Branch of the Ministry of the Solicitor General. Joy Harle, a Policy Advisor, led a project team which included Ministry representatives from Financial Services, Communications Branch, the Ontario Police Commission and the Centre of Forensic Sciences.

Program Eligibility Criteria

The Ministry required that the following eligibility criteria be met by each applicant:

- Proposals must be directed toward enforcement, regarding impaired driving;
- Proposals should include a description of existing impaired driving enforcement activities, and proposed initiatives or an activity plan for establishing future enforcement initiatives;
- Proposals must be limited to a maximum two-year funding request;
- Successful applicants must provide a mechanism for the verification of expenditures, and ensure that these relate directly to impaired driving enforcement activities.

Invitation to Apply for a Grant

The Ontario Police Commission took the lead in advising the Chiefs of Police of the funding opportunity. This message was conveyed through a letter to each police force and to the chair of all police commissions and committees from Mrs. Wendy L. Calder, Vice Chairman of the Commission, on February 1, 1988. In that letter she described what forces could request and encouraged their involvement in this most important program. This letter also advised that this was a one-time application for two years of funding beginning April 1, 1988.

There were no specific forms forwarded to the Chiefs of Police to complete. The expectation was that each would respond with a program design that best reflected the needs of their community and police force. This system worked very well and led to some excellent innovation and, in fact, revealed some new technology in safety equipment which was shared with other grant recipients.

As with all grant programs, there was a need for a great deal of individual consultation. The introductory letter generated numerous calls to the Ministry for further details on the overall program and, more specifically, what equipment could be purchased.

A decision was made by the Ministry project committee that funding would have to be provided in advance for the equipment and advertising and promotion portions to allow for the forces to gear-up for an immediate start in the summer of 1988. This set up a process whereby two cheques could be issued per funded year of the program: one for equipment and advertising/promotion at the beginning of the fiscal year; and one for overtime hours at the end of the fiscal year.

Documentation of funded projects was maintained by the Policy Development and Coordination Branch. A financial profile of each project and the program totals were maintained in the Financial Services Branch.

Accountability

Cheques issued to the municipality by the Ministry for equipment or advertising and promotion must be supported by receipts submitted no later than March 31 of the fiscal year funded. Funds that cannot be supported by receipts must be returned to the Ministry.

The overtime claims must be itemized by the Chief of Police and certified by the local Treasurer before a cheque will be issued by the Ministry. Funds not used in the first year of the program are allowed to be held over into the second year.

A letter of agreement was prepared to contract each force to certain conditions. This was included with the letter approving the force for funding and the notification of the specific allocation.

Proposal Review Criteria

In reviewing the proposals, the Ministry used the following guidelines to assign a priority to the applications:

- Project proposals submitted by smaller municipal police forces;
- Project requests that were generally proportionate to the size of the police force;
- Innovative project proposals;
- Projects that could begin immediately upon receiving funding;
- Project proposals that were cost-effective.

As noted above, the actual distribution of funds was based on a number of factors. As the actual process took shape, other factors were also found to be relevant measures for deciding funds allocation.

Consideration was given to other police resources available in the funded area that could assist the force in completing a larger project than they could, if they were to operate alone. This was accomplished by the force combining their effort with other municipal police forces or the O. P. P. at either the detachment or R.I.D.E. team level.

The next issue that was taken into account was the severity of the drinking and driving problem for the area policed. This became an issue in areas that had some rural policing responsibility. Since alcohol-related crashes are primarily a rural problem, funding was directed to those areas.

Some consideration was also given to the local resources that could be brought into play to increase the prevention or educational elements of the program.

In summary, much consideration was given to the smaller "have-not" communities and police forces in the province.

Establishing the Effect of the Funding on Police Resources

A total of 93 of the 125 forces (74.4 percent) in existence in 1988-89, applied for and received funding under this initiative in the first year. In the second year, an additional 14 forces received funding bringing the final total to 107 of 118 forces (90.6 percent) in 1989-90. Approximately $1.8 million, or 90 percent of the fund, has been applied for and committed to date.

In reviewing this area, one must keep in mind that, due to the force size, only about 24, or 22.6 percent of the forces in this grant program, were involved in any ongoing R.I.D.E. activities prior to the program. Smaller forces did not have the capacity to launch such an effort.

Numerous pieces of correspondence were received thanking the Ministry for the support and enquiring about future funding. The Chiefs of Police and the Commissioners reported that without the funding there would not have been a program in their respective communities, and additional funding after March 1990 is required to continue their implementation of the R.I.D.E. program.

On average, the R.I.D.E. contribution accounted for less than one percent of the annual police budget of any of the forces. The impact on the budget of a police force was most pronounced in forces with one to 19 police officers. This coincides with the efforts of the grant selection committee in trying to reach the forces most in need of support.

In forces with a staff in excess of 50, the ability to redistribute existing staff and equipment was a major factor in their capacity to deliver the campaign. It should be noted that many of the forces in the one to five group only asked for a single piece of equipment, usually a roadside screening device. Several of the forces could not use all of their allocation for overtime. It was found, in consultation, that a few had over-estimated their capacity to deliver the program and others had problems with officers on courses or sick leave causing a general shortage of staff.

An Overview of the Action Taken by Police Forces

Equipment

The purchase of equipment was heaviest in the first year of the program. It accounted for approximately 38.4 percent of the total expenditure for the 1988-89 fiscal year which was over twice as high as the second year which showed 17.8 percent of that year's budget allocated to equipment. Averaged over the two years, equipment accounted for 30 percent of the total approved funding.

The most integral item in this program is the roadside screening device (alert or alco-sur). This is used by the police officer to establish the reasonable and probable grounds to arrest a person on the criminal charge of having a blood alcohol count in excess of .08 (a "fail" reading) or to proceed under the Highway Traffic Act to suspend a person's licence for 12 hours for a "warn" reading (.05) on the device. Over 25 percent of the funding allocated for equipment went for the purchase of 161 devices, calibration equipment and supplies. The alert or alco-sur has a unit cost of about $750.

Prior to this program, many police forces did not have this type of equipment. The officers relied on larger neighbouring forces or the O. P. P. to assist them in situations that required that the driver of a motor vehicle be tested with a roadside screening device. More often than not, the border-line cases were released without charge as the officer would not have sufficient evidence to proceed with a charge of exceeding .08.

The purchase of 161 devices also helped to realize one of the goals of Mr. Bates of P.R.I.D.E. who wished to see a roadside screening device in every patrol car in the province.

The balance of the funding was used primarily to purchase the necessary safety equipment required for police officers to operate the spot-checks at night. Safety vests, wands and signs for roadside use and on vehicles, were regular items in most applications for funding.

There were ten R.I.D.E. vans purchased under this program. They are located in Belleville, Brantford, Hamilton, London, Metropolitan Toronto (3 units), Niagara Regional, Ottawa and Sarnia. Several of these forces had sufficient human resources dedicated to this program and only required the support equipment to complement their effort.

These vans proved useful on several fronts:

- Their high visibility and bold R.I.D.E. markings allow for the program to be advertised even when it is not in full operation;
- They provide transport for safety equipment (i.e., road signs to reroute traffic) to the check-point;
- When unloaded, they provide work space for officers to complete an investigation;
- The site of the spot-check is more visible as the roof lighting is elevated above most vehicles that would be approaching the area;
- During the off-hours these vehicles are used for community service functions such as traffic safety and drug education sessions at schools, parades and other community events.

This program financed the first Breath Alcohol Testing (B.A.T.) vehicle in Ontario. This was submitted by the Sudbury Regional Police Force and was one of the most innovative submissions received. A large van is used as a self-contained breath testing unit. It can be driven to a spot-check scene and officers can complete an investigation for a drinking and driving offence, from arrest to release, inside the unit. It is fully equipped with a Borkenstein Breathalyser and facilities for the accused to make a private telephone call to counsel.

Staff Overtime

The staff overtime portion of this program was a crucial element for the many small police forces in Ontario. In many cases, this grant program was the only way the Chief of Police could have additional staff made available to work on this type of initiative. In the first year of operation, overtime accounted for $648,500, or 56.8 percent of the allocation. In comparison, overtime in the second year was $597,600 or 79.1 percent of the funding. Over the two years, funds totalling $1,233,000, or 65 percent of the total, have been committed to overtime.

Claims for payment of overtime were made by the Chief of Police and certified to be correct by the Municipal Treasurer. All cheques issued for all phases of this program were made out to the municipality to ensure knowledge for accountability by the Treasurer.

Salary was paid at one and one-half the normal rate of pay for the individual officer, which is a standard overtime rate. Given that the average hourly rate of pay in Ontario for a first class constable was $18.24 per hour ($27.36 for overtime), it is estimated that there were at least 23,700 hours of overtime worked during that year. In the second year, the amount was approximately 21,800 hours worked. This varied due to hours worked by the various ranks of the officers.

Twelve forces requested permission to hold over funds from the first year to be used in the second year. The Chiefs reported they either had late starts into the program or were back ordered on essential equipment. This was granted in all cases.

Advertising and Promotion

During the first year of the program, $55,800 or 4.8 percent of the budget, was allocated to this area. In the second year, that figure declined to 23,700 or 3.1 percent of the budget. During the two-year period, advertising and promotion accounted for only 4.2 percent of the budget for the entire project.
The police forces reported that these funds were spent on purchasing advertising in local media such as T.V., radio and newsprint. Some forces chose to use the funds to purchase promotional items to be used in conjunction with local advertising campaigns for the program.

Across the province, there was a tremendous amount of corporate good will toward the program. Many media outlets did not wish payment for advertising this program. In other cases, promotional items were donated by local businesses and service clubs. Overall, the program had a very positive effect on the police forces' relationship with their communities. People seemed to clearly understand that this program was being done for them, not to them.

Enforcement Activity

During the first year of the program, 1,303,731 vehicles were screened by municipal police R.I.D.E. programs. This resulted in 10,833 twelve hour suspensions (one in 120 vehicles screened) and 9,852 Criminal Code driving offences (one in 132 vehicles screened).

The Ontario Provincial Police R.I.D.E. teams stopped a total of 1,191,890 vehicles resulting in 5,370 twelve hour suspensions (one in 222 vehicles screened) and 1,863 Criminal Code driving charges (one in 640 vehicles screened).

Provincial statistics show the total number of vehicles screened in the first year of operation was 2,495,621. Twelve hour suspensions totalled 16,203 (one in 154 vehicles screened) and Criminal Code driving charges reached 11,715 (one in 213 vehicles screened). The total number of vehicles screened represents over one-third of all vehicles registered in Ontario, and drivers licenced in the province.

When you consider that many of those vehicles would have had more than one occupant and that each occupant likely told at least one other person that they were stopped, it would be difficult to find a person in the province who was not stopped or who did not know a friend or relative who was. This is a most enviable position to be in when trying to accomplish a social-marketing strategy.

Issues Arising from the Program

Alco-Sur Testing Equipment

In April of 1988, shortly after this program began, a new roadside screening device was approved for use in Canada. This instrument is known as the alco-sur, alcosensor. This device is distinct from the alert in several ways:

- It does not require a battery charging unit;
- It does not need to be plugged into a 12 volt power source between uses while in the cruiser;
- The unit operates on a single 9-volt "D" battery;
- The breath sample is not taken into the machine but is blown across the top and a sample is vacuumed into the unit. This reduces the opportunity for fouling requiring servicing;
- The unit is extremely portable. It is about one-quarter the size of an alert;

- It can be easily carried in a shirt pocket allowing it to be kept warm in inclement weather. This shortens the time required for sample analysis.

Unfortunately, due to the delay in approving the device, and because of virtually no marketing in Ontario, many police forces had purchased alerts before recognizing the alco-sur was available. This information has been shared with the police community through several forums. The alco-sur machines have been used on an ongoing basis by most major forces with great success.

Increased Court Time

Several calls were received at the Ministry from Chiefs of Police concerned about a significant increase in court time for officers involved with the R.I.D.E. program. While it is true that drinking and driving cases often proceed to the trial stage due to the many pending cases before the appeal courts, R.I.D.E. accounts for less than one third of all drinking and driving criminal charges.

Case Law On Random Stops

It has been the policy of most police forces involved in this program to use R.I.D.E. as a screening process for drinking drivers. Where possible and appropriate, cautions have been issued for minor offences (i.e., seat belts, equipment failures).

Some police forces have seen the opportunity for a more intensive investigation of each vehicle to reveal outstanding warrants and other offences that may present themselves. This, for the most part, does not present a problem where traffic flow is limited. In areas where traffic flow is constant, this action translates into lengthy delays for innocent motorists. The judgement of the officer conducting the screening must be particularly astute so that undue delays do not occur. Concerns over these delays were heightened during the inception of the Charter of Rights.

The existing case law allows the police tremendous scope of authority and, in fact, presents them with an exception from several provisions of the Canadian Charter of Rights and Freedoms.

The Supreme Court of Canada cases of Regina v. Hufskey and Regina v. Thomsen, released April 28, 1988, allow for the random stopping of motor vehicles by police officers for several purposes. While conducting a spot-check officers may check for drivers licence, insurance, mechanical fitness, and/or sobriety of the driver.

Prior to this decision, the Provincial Courts in Ontario required that the investigating officer prove, to the satisfaction of the court, that the R.I.D.E. program was advertised and that any motorist could expect to be delayed for the purpose of checking for the sobriety of the driver. This led to officers having to present, in their evidence in chief, press clippings and evidence of radio coverage for their R.I.D.E. activities in the community where the accused was apprehended. Many cases were dismissed by the courts as a result of this practice.

R.I.D.E. Standard

A police standard is being written for R.I.D.E. by the Policing Services Division to alleviate the potential situations that may erode the police officers' authority to randomly stop vehicles and to maximize the safety of police officers and the motoring public at the check-points. This standard will give direction to the police concerning where and when the check-points may be established and procedure for the officers conducting the actual screening.

These standards are in the final draft stage after considerable consultation with the Ontario Association of Chiefs of Police Traffic Committee, and the Coordinated Traffic Management Group of Ontario. This matter is scheduled to go before the Ministry's Policing Standards committee in June 1990.

Corporate Sponsor - Nissan Canada

Chief Barry King, Sault Ste. Marie Police Force, received a Nissan van as a donation to his R.I.D.E. program from a local dealer. The Chief completely equipped it as a police patrol vehicle including side markings and a roof light package. The vehicle was also marked clearly with the R.I.D.E. emblem.

The car dealer invited the President of Nissan Canada to the Sault to look at this most impressive vehicle. As a result of Chief King's conversation with the President of Nissan, an offer was made to the Ontario Association of Chiefs of Police that Nissan would, through participation of local dealerships, provide the vehicles to any force that would pay a small monthly lease charge of $75 to $100. This resulted in 85 vehicles being ordered by forces. To date, 36 have been delivered.

The conditions Nissan has placed on the lease of these vehicles are:

- The primary use must be for R.I.D.E.;
- The vehicles must be marked clearly from all four directions for R.I.D.E.;
- The vehicle identification number must be ".08";
- They must display the participating dealers name (small decal on both sides);
- The only alternative uses for the vehicles are for drug awareness or traffic safety programs in the school system.

This has been a tremendous boost to many smaller forces that have not had the resources to purchase vehicles for R.I.D.E. or for community relations. Several other forces have received vehicles from other manufacturers as well (i.e. four vans from Ford dealerships in the Waterloo Region).

Termination of the R.I.D.E. Program

Many police forces have begun an active lobbying campaign to extend the funding of the municipal grants by sending letters to the Solicitor General and submitting news articles to their local media. This has resulted in a series of articles in newspapers in the Ottawa area and a C.B.C. Ottawa radio show on the subject. There has been limited coverage in newspapers in other areas of the province. The media is accusing the Ministry of "cutting" the funding for this program. Correspondence has been received from 10 police forces, one police commission and the President of the Ontario Association of Chiefs of Police. A letter of concern was also sent to the Solicitor General and the Premier by Mr. John Bates, President of P.R.I.D.E.

Conclusion

The provincial R.I.D.E. program has proven most efficient and effective vehicle in reaching the drinking and driving population. The program has created an increased perception that R.I.D.E. is, as it promises, out there **EVERY NIGHT - EVERY WHERE** (based on anecdotal information and focus group responses conducted by The Drinking/Driving Countermeasures Office).

The Municipal Grant Program filled a void in the policing community by providing much needed equipment and staffing resources to make an impact on the driving population of Ontario. The profile created for R.I.D.E. by the Ontario Provincial Police R.I.D.E. teams made the reality of being apprehended, even on rural roads, a reality.

R.I.D.E. has become a household word in all communities in this province. Anecdotal evidence suggests that the attitudes of Ontario's drivers, toward the issue of drinking and driving, has changed significantly as a result of this campaign. Furthermore, the concepts of designated driver and seeking alternative transportation are found to be commonplace in all age groups throughout Ontario.

The experts in this field in Ontario attribute much of this to the tremendous amount of media attention that R.I.D.E. has generated as it has gathered momentum in Ontario. Evidence in support of the program is also reflected in the media attention directed at the fact that the end of the program is drawing near.

One other very important aspect of R.I.D.E. is that the police officers working the check-points are put in a very positive, highly interactive, situation with the public. The police officer's self-esteem, as well as the public's image of the police officer and his or her role in society, are all enhanced by being involved with this program. Many Chiefs of Police have reported to the Ministry, both in writing and in person, that this program has greatly improved the force's, and the individual officer's, relationship with the community, the business sector and the media.

IGNITION INTERLOCK DEVICES: USING TECHNOLOGY TO CONTROL THE CONVICTED DRUNK DRIVER

MARYLAND

Ann E. Singleton

Ms. Singleton is the Assistant Attorney General for the Maryland Department of Transportation, Motor Vehicle Administration

Introduction

Drinking and driving continues to be a serious national public health and safety issue in the United States. According to the National Highway Traffic Safety Administration, two of every five Americans will be involved in an alcohol-related traffic accident at some time in their lives. At least 40 percent of all highway deaths involve the unresponsible use of alcohol, which accounted for the loss of over 200,000 lives in the past ten years. Economic losses from fatalities and injuries to businesses and families in medical costs, property damage and lost human resources is estimated between $21 and 24 billion annually. Of course, the emotional trauma caused by this carnage is impossible to calculate.

In the midst of these chilling statistics, studies are showing that the traditional, but costly, punishment of imprisonment has been ineffective in solving the problem of drunk driving. America has launched a war on drugs with national, state and local initiatives to combat alcohol and substance abuse.

Ignition interlock systems represent one of the latest "high-technology" tools being used in the fight against drunk drivers. It offers a timely and innovative alternative to costly incarceration. These systems consist of in-car alcohol breathanalyzers which are connected to a vehicle's electronic system. The devices prevent the ignition from being started if the driver's breath contains a level of alcohol above a preset legal limit. Presently, there are three companies in the United States which manufacture these ignition interlock devices: Safety Interlock, Inc., P.O. Box 221818, Carmel, California 99392 which markets the "Soberlyzer"; Auto Sense Corporation, 3501 Breakwater Avenue, Haywood, California 94545 which markets "Alcolock"; and Guardian Technologies, Inc., 5200 Fields Ertel Road, Cincinnati Ohio 452459 which markets "Guardian Interlock". An Australian company, Lion Analytics, P.O. Box 440, Castle Hill, NSW 2154, Australia, is also developing an ignition interlock device but has not marketed it in the United States.

In 1986, California became the first state to enact legislation regarding these devices when it established certification requirements for a model program in four counties. All three American companies were certified in California. Fifteen other states have enacted legislation since then.

On January 1, 1989, a Maryland statute regarding Ignition Interlock Systems, Transportation Article, sec. 27-107, Annotated Code of Maryland went into effect. The Motor Vehicle Administration (MVA) issued regulations to implement the certification process. Only one company, Guardian Interlock Systems Inc., (Guardian) applied for certification in Maryland. In September, 1989, the MVA approved the "Guardian Interlock" ignition interlock device for use in Maryland. This paper focuses on the legal problems associated with the devices.

Maryland's statute is typical in that it provides that a trial judge may, in addition to any other condition of probation for a violation of driving while intoxicated (DWI) or driving while under the influence of alcohol, prohibit a defendant from operating a motor vehicle that is not equipped with an ignition interlock system for a period of not more than three years. The sentencing judge directs the MVA to note in an appropriate manner a restriction on the person's licence. Moreover, the statute requires proof of the installation of the system and periodic reporting by the defendant for verification of the proper operation of the system. The defendant is required to pay the reasonable cost of leasing or buying, monitoring and maintaining the system. This costs the offender $40-50 monthly for the first year of a sentence, and provides for installation, training and mandatory inspections of the vehicle and interlock device. In Maryland, all interlock devices are set to prevent ignition if the breath contains more than .02 alcohol concentration.

The interlock device maintains a computerized record of operation and logs any non-compliance or attempts to tamper with the system. Maryland's statute makes it a criminal misdemeanor for a defendant to operate a motor vehicle that is not equipped with an ignition interlock system or to solicit another person to attempt to start a motor vehicle equipped with an ignition interlock system. It is also a misdemeanor for a person to attempt to start or start a motor vehicle equipped with an ignition interlock system for the purpose of providing an operable motor vehicle to a person who is prohibited from operating a motor vehicle that is not equipped with an ignition interlock system.

However, the statute does provide that if a defendant is required in the course of the defendant's employment to operate a motor vehicle owned or provided by the defendant's employer that the person may operate that motor vehicle in the course of the person's employment without installation of an interlock system if the sentencing judge has expressly permitted it. The Maryland law provides that a person may not sell or lease or offer to sell or lease an ignition interlock system in Maryland unless the system has been certified by the MVA and a warning label has been affixed to the system stating that a person who tampers, circumvents or otherwise misuses the system is guilty of a misdemeanor.

Several initial studies from across the United States show that ignition interlock devices are a very promising sentencing tool for deterring drunk driving. In a 1989 University of Maryland thesis by Elizabeth A. Baker, Ph.D., convicted DWI offenders in Calvert County were studied to assess the effectiveness of an ignition interlock system on the subsequent drinking and driving of DWI offenders. Eighty-eight first time and multiple offenders were randomly assigned to either a traditional treatment group receiving counseling and education or to a traditional treatment plus ignition interlock system group. Both groups were asked to complete a pre and post test survey. Arrest records for both groups were compared for recidivism and the electronic logs provided data on the offenders' use of the devices. Most of the respondents regarded bypassing of the system as difficult and most felt the system was effective in controlling their drinking and driving. Most of the respondents generally agreed with the use of ignition interlock systems in DWI cases and felt the system was of value to them. On average the system prevented automobile ignition 1.15 times after installation.

Although half of the respondents were aware of circumvention methods, most agreed that "bypassing the system was not very easy". None of the respondents indicated that they used any of these methods although they were aware of them. Many of the bypass methods have been successfully eliminated by advances in the interlock technology. Guardian has an optional mode involving a coordinated breath pulse access code which requires the driver to not only pass the alcohol analysis but to deliver breath in series of timed pulses and pauses. If the code is not administered correctly after several attempts, the car will not start for one hour. Another feature shuts off the ignition if the car is left idling for a specified time period. This model also incorporates a feature that signals a red light to come on if there is tampering with the wiring. Such tampering is considered a violation of probation and is reported to the court by the agency monitoring the use of the device. Guardian is developing a device which will be voice activated. None of the respondents expressed any difficulty in using the system and when faced with a negative test simply waited until their alcohol concentration had reached an acceptable level. The electronic data showed little evidence of tampering or removal of the system.

Baker saw the most "promising trends" in the behavioral value category as 50 percent of the respondents indicated that they had used the system to help remind them of when they had consumed too much alcohol. More than half of those responding indicated that they had made other transportation plans if they knew they would be drinking because the system was on their car. This shows a tendency indicating that the system, "forced respondents to take responsibility and make decisions before their judgment was impaired by alcohol".

Baker concluded that multiple offenders were more likely to cooperate and benefit by having an interlock device on their motor vehicle. First offenders were more hostile to the installation program, more embarrassed and more likely to try to circumvent the system.

Similar positive results have been obtained in other early studies. In a California pilot program interim report, interlock devices in one county prevented a number of drivers from starting the car an average of 6.8 times. Moreover, probationers had low rates of reconviction while sentenced to an interlock system as the study showed rates which varied from 0.0 percent to 4.8 percent. Concerns were expressed, however, over the cost of the device. Program officials in other states have informed me that cost is not a problem: most defendants are so glad to avoid incarceration that they willingly incur the cost of interlock systems. A final report based on case studies, probationer interviews and rearrest and reconviction data is to be released in 1990.

A study in Hamilton County, Ohio has concluded that ignition interlock devices are effective in reducing repeated offences by drunken drivers. That study involved 358 drivers who had been convicted of driving under the influence of alcoholic beverages. Half the drivers had ignition interlock devices installed while the other half were handled by the usual methods such as suspended licences and jail terms. The two groups were paired and matched for similar personal characteristics including arrest histories. Other factors known to put the people at risk for DWI include the number of DWI arrests, blood alcohol level, jail time, problem drinker classification, total time at risk, sex and socio-economic status. During the study, the drivers were monitored for arrest for DWI, no driver's licence and driving on a suspended licence. The survival rate was calculated as the number of individuals from each group who were not arrested for any of the above categories. After twelve months, the non-interlock group members had been rearrested five times more frequently than the interlock group. After 21 months, the non-interlock group members were arrested ten times more frequently. According to Guardian, over 4,000 units have been installed since April 1986 and less than one percent of the participating drivers have been rearrested for drunken driving while on the program.

The use of ignition interlock devices is promising, not only for its behavioral modification tendency, but also because it offers an alternative to costly incarceration. Moreover, this system fosters personal responsibility by the defendant who is responsible for the cost of the installation of the device. Several probation officers report that defendants have sought to purchase an interlock device system for their automobiles after the end of their probationary term. Also encouraging their use, according to Guardian, is that insurance discounts from 15 percent to 35 percent may be available for interlock users in several states.

Legal Issues

There are six major areas involving legal issues connected with the use of ignition interlock devices as a sentencing tool. Legislators, prosecutors, probation officers, licencing agency counsel, and others who are considering legislation and/or the implementation of a program in their jurisdiction will need to consider these concerns:

Need for Legislation

Judges in the United States are currently ordering the installation of ignition interlock devices when a defendant is sentenced for an alcohol related driving offence. Installation may be ordered as the sentence, a part of the sentence (in conjunction with other penalties such as fines, alcohol education, treatment, community service or jail terms), or as a condition of probation. In many jurisdictions, probation may be imposed either before or after the verdict. Probation given before a verdict, means the judge makes a finding of guilt but no formal verdict or conviction is imposed. The defendant is then placed on probation. If the defendant satisfactorily completes the term of probation, the judge vacates the guilty finding and the defendant receives no conviction on his or her record. If the defendant violates the terms of his or her probation, the judge can impose the conviction and sentence the defendant accordingly.

As a general rule, in the United States, specific statutory authority is not necessary before judges can order probationers to install ignition interlock devices in their vehicles. Most probation statutes give broad discretion to judges. Probation is considered to be a matter of grace, not entitlement. Statutes typically authorize judges to order probation upon such terms and conditions as the court deems proper.

Lawyers may want to conduct research in their own jurisdiction to determine what restrictions, if any, are placed upon judges in ordering probation and establishing terms and conditions. The judicial power to impose conditions of probation is not unlimited. For example, Maryland courts have held that Maryland judges cannot:

- Impose fines or fees in addition to fines or fees already established in separate statutes for sentencing;
- Banish defendants to another country;
- Put defendants on probation for an indefinite time period;
- Order a defendant to make a contribution to a specific charitable organization, such as the American Red Cross, Boy Scouts of America or Mothers Against Drunk Driving.

However, the only requirements for conditions of probation in Maryland that may be imposed by judges are that they:

- Must be reasonable and have a rational basis;
- Must not be the product of arbitrariness or capriciousness; and
- Must be clear, definite and capable of being understood by the individual and by those responsible for the enforcement of conditions.

In Kursch v. State, 55 Md. App. 103, 460 A.2d 639 (1983) the defendant was convicted of driving while intoxicated. As a condition of probation in exchange for the court's suspension of his ten month jail sentence, the defendant agreed not to drive for two years and the judge suspended the defendant's driver's licence. Although the issue was not properly preserved for review, the Court of Special Appeals of Maryland held that the trial court could not suspend a driver's licence; only the driver licencing agency had the authority to do that. However, the appellate court held that it was a proper condition of probation to prohibit the defendant from driving a motor vehicle for two years.

Thus, if a judge can prohibit all driving as a condition of probation, it can easily be argued, that it is only reasonable to infer that a judge can impose reasonable restrictions on driving, such as the installation of an ignition interlock device.

In a memorandum decision from a lower Washington court, State of Washington v. David L. Baldwin, et al., Aukeen District Court, County of King, State of Washington, No. 4962601, 4918936, IO11186, 4794430, 4967369, 481643, H119688 Memorandum Opinion by a three judge panel, the defendant argued that the device had not been properly certified pursuant to the statute on interlock devices. The district court rejected the argument explaining:

> *It is true that no machine has been certified pursuant to the statute and that statutory scheme would appear to be incomplete therefore, but the statute was unnecessary to the Court's inherent authority to require the usage of the device and was superfluous to the jurisdiction in these cases. RCW 3.66.068 has for some time provided that the court may suspend a sentence for two years "upon stated terms." Moreover, the Supreme Court has held that the entry of a Deferred Prosecution order is merely a "sentencing option" in a given case. The requirement that the device be installed in the instant case is merely a "stated term"* .

Most states that are encouraging the use of ignition interlock devices are enacting legislation to remove any doubt of the sentencing judge's authority to order installation and use of the devices. This increases the confidence of the judiciary in utilizing this sentencing sanction.

Legislation has been enacted in sixteen states to date: Alaska, California, Idaho, Indiana, Iowa, Kansas, Maryland, Michigan, Nevada, New York, North Dakota, Ohio, Oregon, Tennessee, Texas and Washington. Although the states of Idaho, Kansas, Nevada, North Dakota and Tennessee have passed legislation concerning ignition interlock devices, they presently have no programs. Two other states, Delaware and Pennsylvania, have pilot programs in effect even though they have no legislation. Fifteen states have legislation pending.

Defendant's Right to Appeal and Appellate Issues

There has apparently been only one reported appellate decision to date in the United States specifically regarding ignition interlock devices. Undoubtedly more decisions will become available in the next few years as more states enact legislation and adopt programs.

Limitation of Right to Appeal

There is no constitutional right to an appeal in a criminal case; all appellate rights are statutory in origin. Consequently, legislators, prosecutors and highway safety officials may want to examine the appellate remedies available in their jurisdiction and consider legislation to limit a defendant's right to appeal.

For example, Maryland's probation statute precludes a defendant from appealing the imposition of sentence or terms of probation if the probation is granted before verdict. However, if probation is imposed as part or all of the sentence after conviction, the defendant can appeal. Maryland also has case law, established in Cubbage v. State, 304 Md. 237, 498 A.2d 632 (1985), that a defendant can waive his or her statutory right to appeal as part of a plea bargain regarding the offence and sentence.

Constitutional Issues

In State v. Scott, 773 P.2d 394 (Or. App. 1989), the defendant challenged the conditions of probation imposed by the trial court. After a jury verdict of guilt of driving under the influence of intoxicants, the trial judge suspended imposition of sentence and placed Scott on probation. The terms of probation included suspension and confiscation of Scott's California driver's licence. The county with jurisdiction over the case, Benton County, was participating in a pilot program allowing trial judges to require an interlock device during a DWI suspension. On the trial court's notice of suspension to the Oregon Department of Motor Vehicles, the trial judge checked a box requiring an ignition interlock device as a requirement for a hardship permit. Scott argued that the court did not have authority to confiscate his California licence or to suspend his California driving privilege. Scott also assigned as error the requirement of the ignition interlock device on the ground that the selection of Benton County to participate in the pilot program violated the constitutional principle of equal protection. Scott argued that additional financial burdens were imposed upon the participants in the pilot program and that the selection of Benton County to participate was "haphazard" in violation of the Privileges and Immunities Clause, Article I, section 20 of the Oregon constitution and the Equal Protection Clause of the Fourteenth Amendment to the United States Constitution.

The Oregon appellate court held that confiscation of Scott's California driver's licence was not barred by the Interstate Driver's Licence Compact but that an Oregon court could not suspend driving privileges in another state, although it could suspend Scott's driving privilege in Oregon.

In addressing the equal protection issue, the Oregon court noted that in order to prove a violation of the Privileges and Immunities Clause, a defendant must first show he or she was denied a privilege or immunity. The program required that an offender who wants a hardship permit must pay the reasonable costs of installing, and maintaining the device unless the offender is indigent. According to Scott, offenders in nonparticipating counties had the privilege of avoiding that cost.

The court rejected Scott's claim although residents of the group of counties participating in the pilot program formed a true class whose disparate treatment, was, by virtue of their characteristics exempt from the law in question. The court explained that state legislative schemes based on geographic distinctions are tested by whether the state had a rational basis for such a classification. The State of Oregon was testing a device that would allow DWI offenders limited driving privileges while attempting to prevent them from driving while under the influence of intoxicants. The pilot program was designed by the legislature to be put into effect in a limited number of counties for a specific amount of time. The Oregon court noted that California courts had found that geographically limited experimental alcohol treatment programs for DWI offenders did not violate the Privileges and Immunities Clauses of the California constitution which had language similar to that of Oregon's. In Department of Motor Vehicles v. Superior Court, San Mateo County, 58 Cal. App. 3d 936, 941-42, 130 Cal. Rptr. 811 (1976) the court had stated:

> *The relationship between the limitation of the program to four counties and the purpose of the statute is clear. This court may take judicial notice of the fact that the problems of alcoholism and the drinking driver are serious ones for which our society has found no easy solutions. The intent of the statute is obviously to experiment with alcoholism treatment programs on a limited basis and for a limited time. If these programs are proven effective, they may be implemented on a statewide basis; if the scheme is not successful, it may be aban-*

> *doned, and the state will not have incurred the burden of funding it and administering it on a statewide basis.*

The Oregon court in State v. Scott, supra, 773P.2d at 397 observed that the Oregon pilot program:

> *...tests the effectiveness of a device that has the purpose of protecting public safety with a minimal impact on the resources of the state and its citizens. Those are legitimate legislative objectives that justify the creation of the class. The pilot program does not violate Article I, Section 90. We conclude that, for the same reasons, the program does not violate the Fourth Amendment.*

The court further observed that nothing in the record supported Scott's claim that the counties were chosen at random or in a discriminatory fashion.

Another constitutional issue alluded to in Scott, but which has yet to be addressed by appellate courts, is the equal protection claim on the basis of indigency. If, for example, trial judges say to a defendant upon conviction for a DWI offence, "You're either going to jail or you're putting an interlock on your car," the defendant could argue he or she was being denied equal protection of the laws because he or she could not afford to pay for the interlock device. If he or she was then sentenced to incarceration, he or she could argue the sentence was unconstitutional because it penalized him or her for being poor.

Indeed, this argument was made in State v. David Baldwin et al., supra. The district court emphatically rejected the defense claim:

> *This argument does not rise to the level of a constitutional prohibition. The fact that a requirement may have a more heavy impact upon poor people than upon wealthy people does not per se create unequal protection. Such a result is commonplace even in these cases. Certainly the requirement that probationers maintain liability insurance falls more heavily upon poor people, or that they pay court costs or fees to counseling agencies, etc. The court does not find that the payment program required by the manufacturer is unnecessarily burdensome or onerous for indigent people. The cost is certainly within the means of most people who continue to drive an automobile. While the cost may be prohibitive in an individual case, depending upon the circumstances, such a result has not been shown in any of the instant cases.*

States utilizing interlock programs have adopted a variety of approaches to this problem. Some have simply made no provision for indigency at all in their statutes or regulations. Guardian charges a defendant approximately $500 a year for the leasing, installation, monitoring and removal of one of their devices. This breaks down to approximately $1.50 a day (less than the price of a mixed drink). Even though a defendant may have incurred a fine, court costs and payment to an attorney, it does not mean that the additional payment to an interlock manufacturer is unnecessarily burdensome or onerous.

Several states have established funds or pools for indigent persons. Another option is for judges to suspend fines or court costs to enable defendants to pay for the interlock system. Guardian not only allows for extended payment on an installment schedule, but has provided a certain number of "scholarships" for use by indigent defendants. Another way to avoid constitutional problems is to have installation of interlocks optional, not mandatory, by the judge based upon the defendant's specific consent as a result of plea bargaining.

If the probation department petitions the court for a revocation of a defendant's probation, and the probation is revoked, several appellate issues could arise. For example, if a defendant appeals a revocation of probation and says the order of installation was improper, the state could argue that the defendant has waived any attack on the program itself and that it is too late to contest the conditions of probation. However, there could be sufficiency of the evidence issues if the device malfunctions or tampering is noted on the electronic log. Can the State prove by a preponderance of the evidence that the tampering is due to the defendant's willful actions and not the manufacturer's defect? If there is evidence of tampering on the log, was it deliberate? Even if it was deliberate, was it done by the defendant or someone else?

Problems Relating to Malfunctions

The possibility exists that an ignition interlock device could malfunction and allow the vehicle's ignition to be started by someone with a blood alcohol concentration (BAC) higher than the preset limit. In the worst case scenario, a driver would injure or kill others while impaired by alcohol despite the installation of an ignition interlock device. Accordingly, most, if not all, the states passing legislation have required that manufacturers carry liability insurance and notify the appropriate state agencies upon cancellation of this insurance. Lawyers and legislators may also want to be sure to indemnify state agencies, officials, employees, judges, etc.

In addition, legislators may want to adopt specific procedures for monitoring the manufacturer's removing the devices if there are numerous malfunctioning problems or financial problems of the manufacturer including notice of cancellation of liability insurance.

Role of Administrative Licencing Agency

All of the programs in existence permit judges to order installation of interlock devices upon conviction of an alcohol-related driving offence. Some jurisdictions, such as Oregon, allow the sentencing judge to order suspension of the defendant's licence and installation of an interlock as a prerequisite for a hardship or employment permit. Other states, like Maryland, do not allow the judges in criminal cases to suspend or restrict the defendant's driver's licence because that authority has only been given to the administrative licencing agency.

The agencies themselves could probably require interlock devices as a precondition for eligibility for hardship or employment permits without enabling legislation, since most have statutory authority to impose reasonable restrictions on the privilege to drive, i.e., eyeglasses, night driving, handbrakes and the prohibition of alcohol consumption. However, legislation would probably be necessary if the licencing agency wanted to make installation of interlock devices a requirement for licence restoration or reinstatement after a term of suspension or revocation.

In Maryland, the sentencing judge is required by statute to notify the licencing agency, the MVA, of any order prohibiting the defendant from operating any motor vehicle that is not equipped with an ignition interlock system. The MVA is then required to place notice of this restriction on the defendant's driving record where it would be readily accessible to any police officer by computer after a traffic stop. Maryland, like many states, has a point system whereby a number of points are assessed to a driver's record upon convictions for certain crimes, i.e., 12 points for DWI, five points for speeding in excess of 30 mph over the posted limit, one point for failing to stop at a sign or light.

Legislators and those government officials and lawyers drafting legislation in point system states may need to be aware of possible conflict between the sentencing judge and the licencing agency. Consider the following hypothetical case. A judge convicts a defendant of DWI and as part of the sentence requires installation of an ignition interlock device for a year at a cost of $500 to the defendant. Upon notice of the DWI conviction, the Department of Motor Vehicles assesses enough points on the driver's record to require suspension or revocation. Depending on the defendant's driving record, such a suspension or revocation could be for a year or more. This could result in the defendant unnecessarily paying for an interlock device for a year when his or her licence is suspended for most, if not all, of that time. One way judges can avoid that situation is to make sure their probation orders requiring installation of interlock devices does not go into effect until after the defendant's licence has been restored by the licencing agency.

Recommendations for Drafting Legislation and Regulations

Obtain Copies of Statutes and Regulations from Other Jurisdictions.

Ask officials in other states about their programs, academic or governmental studies or reports, anecdotal reports on effectiveness, whether there have been any legal challenges or appellate opinions and what changes, if any, they intend to make in their legislation or regulations as result of their experience or wish they could make if they could start all over again. Certification standards are going to be set soon by the National Highway Safety Transportation Agency.

Decide Who Will Administer the Program

Is it a statewide program or one only involving a number of counties? Get input from state police, local police, state toxicologist or health department (breath testing devices), health department (treatment programs), probation department and the Department of Motor Vehicles as well as judges, prosecutors and citizen's groups like MADD. Because the program affects a number of state or county government agencies, strong coordination is necessary. Some agency should be designated as lead agency.

Make Sure Whomever Administers the Program Receives Additional Money in the Program Budget

The development of an interlock program costs money. The manufacturer can be made to pay costs of the certification process including development of warning stickers and the government's evaluation of the manufacturer's testing of the devices. If any government officials are to monitor the defendant or monitor the manufacturer, funds must be provided. Costs are also incurred in changing forms, changing computer programs and training and education.

Decide Who Certifies the Equipment

The agency that certifies the equipment may not be the same agency that administers the program. It might even be an independent laboratory, not part of state or local government. Be sure enough money is allocated in the budget for this expense. Certification is important to insure quality products and service. Get input from many sources. Do not complete the certification of ignition interlock devices through a bidding or procurement procedure.

Decide Who sets the BAC Limit

Should each judge be free to set the BAC for the device, wherever he or she wants to? This is the approach taken by some states. In Maryland, the preset BAC limit was determined by the MVA at .02 through its regulations as part of its authority to certify and approve devices, even though the statute was silent.

Determine what Locations will be Available to Defendants for Installation, Service and Repair

Depending on the size of the jurisdiction, the manufacturer should provide a sufficient number of service centers.

Make it Clear when a Judge can require Driving with an Ignition Interlock Device

The Maryland statute prohibits the defendant from operating a motor vehicle unless it is equipped with an ignition interlock system. If the statute only requires the judge to order installation, a defendant with more than one vehicle could frustrate the intention of the statute to say nothing about annoying the sentencing judge.

The statute or regulations should provide a maximum time limit to prevent judges from ordering interlocks for indefinite time periods.

Legislators may want to add authorization for offences other than DWI such as violation of alcohol restrictions, vehicle homicide or automoile manslaughter or driving while suspended or revoked for alcohol related driving offences.

Create Criminal Misdemeanors and Administrative Sanctions for Deterrence

Statutes should make it a misdemeanor for a person to:

- Drive a motor vehicle which is not equipped with the device;
- For another person to start an automobile equipped with the device;
- For either the defendant or another to tamper with, circumvent or misuse the device.

The Legislature should authorize the licencing agency to assess points or other administrative sanctions for violation of these misdemeanor offences.

Some provision should be made for those defendants who drive an employer's car as a requirement of their job. The judge can indicate this exemption on the order of probation and the defendant's driving record can be properly noted.

Regulations Should be Detailed

The Maryland statute requires that the regulations to be promulgated ensure that ignition interlock devices:

- Do not impede the safe operation of the vehicle;

- Minimize opportunities to be bypassed;
- Correlate accurately with established measures of blood alcohol levels;
- Work accurately in an unsupervised environment;
- Resist tampering and provide evidence of attempted tampering;
- Are difficult to circumvent and require premeditation to circumvent;
- Minimize inconvenience to a sober user;
- Are manufactured by the party responsible for installation, user training, service and maintenance, who is adequately insured for products liability;
- Provide option for an electronic log of driver's experience with the system;

Also consideration should be given to these major points:

- In determining scientific standards for devices, check NHTSA certification standards and procedures to be released soon (especially concerning cold temperatures and vibration).
- Consider use of personal breath code systems weighed against other means of identification, i.e., voice prints.
- Consider the rights of spouses and other co-owners who need to start the car with minimal inconvenience.
- Consider what changes need to be made in forms for order of probation and other government forms to implement the program. The manufacturer may be able to assist in developing the forms, pay for printing costs or provide forms. Make sure the lines of communication are open between various government agencies involved.
- Have the manufacturer and not the government agency develop and produce warning stickers.
- Have the manufacturer reimburse the certifying agency for the costs of approval or disapproval of the device.
- Require the agency to notify the manufacturer of its approval or disapproval in writing.

Conclusion

Ignition interlock devices are an important tool in the war against drunk drivers. They should not be expected to solve the problem alone, but should be used in conjunction with other deterrents and punishments, such as community service, fines, alcohol education and treatment. They are capable of being bypassed, circumvented or just plain ripped out of the vehicle. Nevertheless, these devices serve to deter drunk driving by preventing the operation of a motor vehicle by persons whose alcohol concentration is above a certain legal level and also serve as a strong behavioral modification tool to discourage drinking and driving. The early studies are extremely promising and the recidivism rates have been low. Although there have been some concerns about the cost to the defendant, incarceration of drunk drivers is extremely costly to taxpayers. The Washington court has best expressed the hope and promise of this technology:

> *The requirement of installing the Guardian Interlock is not unnecessarily burdensome or extreme when compared to the result expected. It has a reasonable likelihood of being successful in preventing a drunk person from operating the motor vehicle. The defendant in each one of these cases has been shown to be a person with a serious problem with alcohol who constitutes a risk of future driving under the influence. In weighing the alternatives, a reasonable balance has been achieved by imposition of the device so that the defendant may have his freedom but the public has some measure of security that he will not drive while intoxicated.*

Utilization of ignition interlock technology will undoubtedly increase as legislators, judges, prosecutors and highway safety officials see additional academic and practical evidence of its effectiveness.

OREGON

Gil Belamy

Mr. Belamy is an administrator with the Oregon Traffic Safety Commission

Introduction

Oregon has, as does the rest of our nation, a problem on its roads and highways with drinking drivers. Accidents involving alcohol or other drugs account for about half of the fatal and serious injury accidents occurring in Oregon each year. However, due to tough new laws and the involvement of many agencies, groups and concerned citizens, there has been a decline in the proportion of traffic fatalities due to alcohol from 50.9 percent of all fatals in 1983 to 45.2 percent in 1988.

Oregon was among the first states to enact legislation to apply the use of new technology, an ignition interlock device, as another tool in its fight against drunk driving. The ignition interlock device is a computerized breath alcohol analyzer and is connected to the car's electrical system. To start the car a driver must blow into the device which measures blood alcohol concentration. If the driver's breath shows an unacceptable level of alcohol the car will not start. In this paper I will give a brief overview of the various components of Oregon's ignition interlock pilot project.

Program Components

The Ignition Interlock Statute

Legislation passed in 1987 mandated the Oregon Traffic Safety Commission, in cooperation with the Oregon Motor Vehicles Division, to establish and evaluate an ignition interlock device pilot program. Eleven counties were selected to pilot test this program. Courts in the pilot counties began to require the installation of ignition interlock devices on vehicles owned or operated by persons convicted of driving under the influence of intoxicants (DUII). When the legislature met and reviewed the project in 1989 it was determined that not enough time had been allowed to draw conclusions about the effectiveness of the program; a bill was introduced and passed which extended the project until 1993 and expanded those subject to ignition interlock requirements.

It is now required that in the eleven pilot counties, an IID must be installed and used in any vehicle operated by a person convicted of DUII before the Oregon Motor Vehicles Division will issue a hardship or probationary permit. The law also requires that an individual who has been convicted of DUII in a participating county have an IID installed and used in any vehicle they operate for the first six months after the ending date of the offender's licence suspension; the device must be installed before DMV will reinstate an offender's licence. Judges may now require the use of an IID as part of a DUII diversion agreement. Although nine other states are evaluating the use of ignition interlock devices, Oregon is the only state to make the use of an IID mandatory in certain instances.

The Device, Installation and Maintenance

Any device used in Oregon must be certified and the vendor approved in accordance with rules established by the Motor Vehicles Division. The ignition interlock devices are currently available from an approved vendor, Guardian Interlock, at an installation center located near the Portland Metropolitan area. At the time of installation, the provider teaches the offender and any family members who will be driving the vehicle how to operate the system.

After installation, the ignition interlock equipment is checked periodically to see that it is operating correctly and is monitored for tampering or attempts to bypass the system.

Mandatory Project Participants

As previously explained, users of the ignition interlock devices are persons who have been convicted of DUII in the eleven pilot counties and have applied for hardship licences and/or are reinstating their licences after a DUII suspension. It is estimated that there will be approximately 2,500 installed ignition interlock devices per year. (DMV estimates approximately 55% of those persons required to install the IID for licence reinstatement will choose to "wait out" the six month period rather than install a device.)

Enforcement Provisions

In addition to required monitoring visits to the installation center, Oregon's ignition interlock device law has specific enforcement provisions. There are penalties for failure to install or use a device, for tampering with the device and/or for soliciting someone else to blow into the device. Police officers have ignition interlock information available to them through the Motor Vehicles Division's driving records, and can issue citations for ignition interlock offences.

Program Administration and Costs

Although the Traffic Safety Commission has responsibility for the overall administration of the ignition interlock pilot project and has dedicated a half time position to coordinate the program, the project has necessitated that several state agencies, the courts and the vendor work closely to develop the program as it now exists. The enabling legislation did not provide specific funding for this project except to mandate that offenders pay the costs associated with installing and maintaining the devices. Costs for the administration and evaluation of this program are largely shared by the Oregon Traffic Safety Commission and the Motor Vehicles Division.

DUII offenders pay the costs of installing, maintaining and leasing the devices. Indigent offenders, if food stamp eligible, may have costs waived; the vendor is then reimbursed from a fund established by statute from fees paid by those convicted of DUII. When the device is installed the offender is charged approximately $130. This includes cost of installation and the fee for the first two months; thereafter, they are charged a monthly service fee of approximately $40.

Program Evaluation

Surveys conducted by the Traffic Safety Commission in 1989 indicated that the program is viewed positively by the public and is seen as a fair and reasonable alternative to full licence suspension by DUII offenders. Unfortunately, there is not yet the statistical basis for drawing conclusions about the effectiveness of the program since more time and data are needed to study whether or not recidivism is lower for offenders who participate in the pilot program by allowing enough time to reliably estimate the respective success and/or failure rates. The law states that "the program will be viewed as successful if the recidivism rate for those subject to the Act is reduced by at least 10 percent over a one year period." The Traffic Safety Commission, in cooperation with the Motor Vehicles Division, will present an interim study report to the 1991 Oregon legislature and a final study report with evaluation results to the 1993 legislature.

Summary

We view the ignition interlock pilot project as an exciting and innovative approach to dealing with drunk drivers. While we do not believe that its use alone will solve the drinking and driving problem, it is our hope that it will prove to be an effective tool, in addition to other DUII countermeasures, in reducing the drunk driving recidivism rate.

JUDICIAL INTERVENTION: COURT IMPOSED PROGRAMS

PRINCE GEORGE'S COUNTY COMMUNITY CORRECTIONS

Jacqueline Ryles-Harris

Ms. Ryles-Harris is Director of the Prince George's County Community Corrections

Prince George's County, Maryland, is located in the metropolitan area of Washington, D.C.. Needless to say, we are a very political area. Consequently when a thirteen year old California girl was tragically killed by a repeat DWI offender, her mother's outrage at the lenient laws and weak judicial response signalled that the battle against drunk driving was on in earnest. In the legislative arena, between 1981 and 1987, some 934 new laws dealing with drunk driving were passed by state legislatures. In August of 1985, Prince George's County DWI facility opened its doors to court recommended drinking drivers.

The facility itself is a self-contained dormitory design. It was originally built for 60 inhabitants but presently has a bed capacity of 68, 10 of which are designated as female housing. The average daily population is 55. All operating funds were planned to be derived from the resident population, thus rendering the program financially self sufficient. Residents pay a flat rate fee determined by their length of sentence. Fees range from $248 for eight days to $948 for 33 days. The facility receives no taxpayer revenues. It operates on a budget of $500,000 annually and is anticipated to reach its self sufficiency status for the first time during fiscal year 1990.

Any person who is convicted of a DWI offence is a potential candidate for our program. These individuals are committed by the Courts to the local Department of Corrections with a recommendation of placement in the DWI facility. The individual is for all practical purposes "in jail" while undergoing treatment. All residents are sentenced to the facility for either eight, 17, 25 or 33 days. Most have a minimum period of one year probation with a special condition for post release treatment as determined by DWI staff.

The DWI program is actually phase one of a comprehensive treatment approach for drinking drivers, with three agencies: the local Department of Corrections, the local Health Department and the State Drinking Driver Monitor Program, providing separate and distinct services.

The Department of Corrections is the lead agency and provides supervision, custody and maintenance of the resident population. The facility is minimum security staffed by both security and civilian correctional employees, around the clock, seven days a week. Security officers provide drug testing via breathalyzer and urine samples. They also maintain general custody and control of the residents.

Civilian correctional staffers are responsible for intake assessments, medical support, work release supervision, recreation, fee collections, disciplinary actions, in-house work assignments and for assisting the courts with scheduling.

All eligible residents will be allowed work release privileges, Monday through Friday only. Those able to work but not afforded work release are placed on a County work detail or given in-house work assignments. Regardless of work status, all residents must report back to the facility before 6:00 p.m. for evening treatment sessions.

The treatment component is provided by the County Health Department's Directorate of Addictions. The Health Department staff, made up of a Director of Treatment, Health Department addictions counselors and contracted addictions counselors, rely on a medical model of treatment. This model is similar in content and hours of treatment offered by hospital based and free-standing 28 day programs. Treatment takes place in the evenings between 7 and 10 p.m. and all day on the weekends.

Intake day for newcomers is always on Friday. During the first 48 hours of intake, all residents undergo intensive assessment in order to determine the extent of alcohol and/or other drug use. Persons in need of detoxification are referred to the main jail's medical unit for treatment prior to beginning the DWI program.

Residents are divided into four treatment groups based on the four possible lengths of stay. An individual treatment plan is developed and governs treatment for the duration of the resident's stay. Treatment plans rely heavily on education, self-assessment and decision making. The treatment plan will begin within the facility and in most cases continue during the probationary period after release back to the community.

The State Drinking Driver Monitor Program along with other service providers, coordinates with the facility to provide supervision after release.

A December 1989 study, under the auspices of the National Highway Traffic Safety Administration (NHTSA), was conducted to determine the impact of treatment and monitoring on Prince George's County DWI's.

According to independent researchers, Dr. Robert Voas and Scott Tippetts, convicted DWI's were divided into four groups based on their participation or non-participation in the DWI facility program and/or the DDMP. The four groups include: those who are sentenced to the DWI facility only; those who are placed in the DDMP only; those who are placed on both programs; and those who are involved with neither.

Another approach taken to the evaluation of the differences between treated and untreated groups was to break the offenders into two groups. The first offenders with no priors and the multiple offenders with one or more priors were analyzed separately using analysis of variance. The largest difference between treated groups and the "neither group" occurs for the first offenders with no priors. Differences are significant in both the first year where the "neither group" has a recidivism rate almost six times higher than the treated groups and in the second year in which the "neither groups" have a recidivism rate double that of the treated groups.

The results of the study were:

- Offenders sentenced to the DWI facility, the State monitoring program, or both, have significantly lower overall recidivism rates than do those DWI offenders who are given neither of these alternatives.

- When the Prince George's County offenders are divided into those who have not had a prior DWI offence in the three years preceding their conviction (first offenders) and those who have had one or more offences in the preceding three years (multiple offenders,) the impact of assignment to treatment program on recidivism appears to be greater for the first than for the multiple offenders.

- The impact of the assignment to a treatment program on recidivism is greatest in the first year following conviction and smaller but still significant in the second year for the first offenders. For the multiple offenders, treatment reduces recidivism in the first year but there is no difference in the second year recidivism rate.

- Sentencing the offenders to the treatment options also appears to lengthen the time between the index conviction anda subsequent DWI offence among those offenders who do recidivate.

The bottom line suggests a decrease in the number of impaired drivers in Prince George's County would result if first offenders were to receive sentencing alternatives including incarceration, treatment and monitoring as provided by the DWI facility.

ST. LOUIS PROGRAM

Linden Davis

Mr. Davis is the Director of the St. Louis Correctional Center

Inpatient Treatment Centre For Impaired Drivers

In 1975 the final report of a Special Committee on Highway Traffic Safety was submitted to the Legislative Assembly of Saskatchewan, Canada. The report dealt with wide ranging issues of highway traffic safety and among other things, recommended alternative sentencing options for persons convicted of impaired driving offences. Later in 1976, the Saskatchewan Alcohol and Drug Abuse Commission (S.A.D.A.C.) and the Corrections Branch of the Department of Social Services (subsequently transferred to the Department of Justice) proposed an Impaired Drivers Inpatient Treatment Program aimed at repeat offenders. Provision was made in the 1977-78 budget to allow detailed planning to proceed for an inpatient treatment centre to function as an alternative to incarceration of repeat offenders.

The St. Louis Board of Governors was appointed by the Minister of Health in early 1979, with a mandate to "operate an alcoholism rehabilitation hospital at St. Louis, Saskatchewan". Staff were hired and trained for the St. Louis Alcoholism Rehabilitation Centre in late 1979 and the first clients were admitted in January of 1980. By January of 1990 over 5000 clients had completed the St. Louis Alcoholism Rehabilitation Centre's program.

Legislative Authority

Under the authority of the Public Health Act, the Board of Governors of the St. Louis Alcoholism Rehabilitation Centre was established by Order-In-Council, February 1, 1979. The centre is designated as a correctional facility by order of the Minister of Justice pursuant to Section 20 of the Corrections Act.

The following are the three phases of the program:

Phase I - Justice Department

Referrals to the St. Louis Centre are made by a Placement Co-ordinator attached to Probation Services in the Province of Saskatchewan. There are three of these co-ordinators attached geographically to the South (Regina), Centre (Saskatoon) and the Northern (Prince Albert) regions.

These co-ordinators assess each client referred to the St. Louis Centre to determine their suitability for our program. These clients may be referred directly by the Courts or the correctional centres within the province. It is important to note that each client has a choice as to whether they wish to attend the Inpatient Centre for Impaired Drivers at St. Louis. Obviously, one of the alternatives would be for them to serve their time in jail. The Placement Co-ordinator then determines if there is any history of violence, escape, or any other type of criminal activity that might render the client unacceptable for our program.

The Placement Co-ordinator is also responsible for taking appropriate action against the client if the latter does not follow the recommended recovery program by S.A.D.A.C.

Phase II - Inpatient Treatment

The treatment program is under the direction of the Board of Governors of the St. Louis Alcoholism Rehabilitation Centre. As indicated, screening and assessments of individual clients takes place by the Justice Department. The second phase begins upon the client's arrival to the Inpatient Treatment Centre, around noon each Friday.

Each Friday we take up to 15 clients and discharge up to 15 clients, giving a fairly consistent number of 30 clients at all times. Half our clients are in the Week One program and half in the Week Two program. Sentencing by the Courts takes place earlier in the week to allow for a St. Louis Placement on Friday. Most will serve at least one night in R.C.M.P. lock-up or at a correctional centre.

Clients are allowed the first weekend to "unwind" and adjust to their new surroundings. Clients are exposed to some basic films that are related to alcoholism. They are given an "orientation" and assigned certain chores as responsibilities. They learn about the expectations of the Centre and the expectations the Centre has for the clients. They get to know their peers, the program and the building. The weekend allows the client to unwind and settle in so they will be able to participate in the program on Monday morning without outside interference.

On Monday morning our program begins in earnest. Each program weekday involves lectures from 9:00 a.m. to 12:00 noon. Small group sessions are from 1:30 p.m. to 3:00 p.m. and films are shown from 3:30 p.m. to 4:30 p.m. One-to-one counselling sessions are scheduled at various times throughout the day. Each client is assigned to one of the four full-time counsellors. The assigned counsellor takes the responsibility for the general well-being of the client during their stay at the Centre.

The counsellors recognize that these clients have a history of many social problems that are not recognized as alcoholism. They also recognize that all social problems are not alcohol-related. The Treatment Centre does an assessment of each client and recommends follow-up to deal with the whole problem. In short they work through the denial, a major symptom of alcoholism.

The lectures are delivered mostly by the counselling staff and consist of an Impaired Driving Program (D.W.I.). The R.C.M.P. participate in the D.W.I. portion of the program. Meetings of Alcoholics Anonymous are held at the Centre on Monday and Wednesday evenings; attendance is compulsory. As well, Al-Anon conducts one session every two weeks so each client is exposed to that program once during their stay at the St. Louis Centre.

Phase III - Follow-Up

Phase III is under the direction of the Saskatchewan Alcohol and Drug Abuse Commission (S.A.D.A.C.). The follow-up program is critical to the client's success. This point cannot be made too strongly. Upon discharge from the St. Louis Inpatient Treatment Program, the client is expected to report to the S.A.D.A.C. Co-ordinator in their home region who will draw up a structured plan of recovery, tailored to the client. The needs of the client may include such things as attendance at Alcoholics Anonymous, family counselling, financial counselling, counselling re: wife battering and child abuse, spiritual counselling and any other needs specific to that client.

ENFORCEMENT: AN ECLECTIC COLLAGE OF UNIQUE PROGRAMS

VEHICLE IMMOBILIZATION DEVICES

Gary Hutnan

Mr. Hutnan is the Director of the Planning, Policy and Projects Unit of the Law Enforcement Division of the Alberta Solicitor General

Introduction

This paper will focus on 24-hour vehicle immobilization to prevent a continuation of an offence and/ or re-offence of impaired driving or other alcohol-related driving infractions. This paper will:

- Describe the legislation as it applies to vehicle immobilization;
- Provide a brief description of mechanical vehicle immobilization;
- Describe the objectives of vehicle immobilization;
- describe the program operation; and
- Provide conclusions and general comments about the program.

Motor Vehicle Administration Act

Alberta's Motor Vehicle Administration Act sanctions the deprivation of access to vehicles in the following ways:

- Suspension of vehicle registration;
- Seizure of vehicles;
- Vehicle immobilization.

Vehicle immobilization can be used under these circumstances:

- 24-hour immobilization of vehicles for persons charged with impaired driving (Section 110.1 Motor Vehicle Administration Act);

- **Longer term vehicle immobilization imposed by the Court for convicted impaired drivers (Section 112 Motor Vehicle Administration Act).**

Section 110.1 allowing for 24-hour immobilization was proclaimed October 1, 1988. Section 112, permitting longer term vehicle immobilization was proclaimed in February 1989 but has not yet been used by the courts in Alberta.

Mechanical Vehicle Immobilization

Vehicle immobilization refers to attaching a wheel locking device to a motor vehicle. Often referred to as the "Denver Boot", it consists of a clamp and hub. The clamp holds the tire, while the hub cover prevents access to the lug nuts - making it difficult to remove the wheel. The device is used not for impaired driving but rather to enforce the payment of outstanding parking tickets in other jurisdictions.

Objectives of Vehicle Immobilization

The objectives of the 24-hour immobilization program are:

- To prevent a person charged with impaired driving from re-offending;
- To remind the general public of the consequences of impaired driving.

The psychological impact of seeing an immobilization device on a vehicle will hopefully deter people from driving while impaired.

Program Operation

Introduction

A pilot project took place in the City of Calgary and the Town of Lacombe, for a three month period, commencing in November 1988. The project focused on the use of immobilization devices in situations where police officers suspect that the person charged might within 24 hours of being charged, commit a similar offence by returning to the vehicle and attempting to drive. The pilot project was deemed successful and the program was expanded to other areas of the province. The program is currently operating in Calgary, Lacombe, Edmonton, Lethbridge, and Medicine Hat.

Products

Following a review of the literature on immobilization devices used in Montreal, Denver, Boston, Washington, D.C., and extensive discussions with authorities from New York and Los Angeles about their immobilization device testing programs, it was concluded that the best immobilization devices for the purposes of the program were:

- The Universal Auto Boot - Sabodoin Enterprises Ltd. Repentigny, Quebec, Canada. COST: $575 Cdn.
- The Palma Auto Boot - Arlington, Virginia, U.S.A. COST: $525 U.S.

For the pilot project, both auto boot companies agreed to supply a total of 10 immobilization devices, at no cost. Shipping costs of $270 for the delivery of the Palma Auto Boot were expended by the Department. The immobilization devices can normally be supplied within a two week period. The pilot project served to evaluate the products and make a determination as to the preferred device. The Universal Auto Boot was considered to be a superior product due to ease of installation, sturdy appearance, and one piece design.

Fees

The booting fee for Calgary and Lacombe is set at $35. The fees in Edmonton are $50, Lethbridge $45, and Medicine Hat $35. In some cases towing fees and booting fees are the same, while in others they vary. For example, the Calgary booting fee is $35 while the towing fee is $60.35. Edmonton charges $50 for a boot and approximately $20 for a tow, while Lacombe and Medicine Hat charge the same fee for both.

Locations Used

In Calgary immobilization devices are used at Checkstop locations and immobilized vehicles are parked on boulevards. The Calgary Checkstop Program operates on a year-round basis.

In Edmonton, Lacombe, Lethbridge, and Medicine Hat, the immobilization devices were used at Checkstop locations, as well as in other locations throughout the city or town, on an ongoing basis.

Towing Companies

The towing companies used were most often chosen because they already had towing contracts with the respective police departments. In some cases the towing companies purchased the boots, while in other cases they were purchased by the police departments. In one other case the cost was split between two towing companies and the police service. One of the overall objectives is that this be a user pay program so that no matter who initially purchases the boots, an administrative fee is collected to pay for the cost of the boot, from the person charged.

Notification Form - Disclaimer

An Immobilization Notice containing a disclaimer is placed in each vehicle. This form was initially developed by the Department of the Solicitor General in conjunction with police agencies at a cost of $500 to the department. One copy of the Immobilization Notice is given to the person charged, one to the towing company, and a copy is also retained by the police. A copy is also left with the vehicle. The back side of the copy has printed on it in large letters,"Warning Do Not Move This Vehicle". The form indicates the location of the vehicle, and provides the person charged with instructions to obtain the release of the vehicle. The disclaimer reads as follows:

> *The Government of Alberta and the police service named above assume no liability for loss or damage to this vehicle or its contents while so immobilized. Attempting to operate this vehicle, while the immobilization device is attached will result in serious damage to the vehicle.*

This notice has been altered by the police services to reflect either their ownership or the towing company ownership of the immobilization device.

Police Procedures

- Once the police officer decides to charge a person with an impaired driving offence under the Criminal Code of Canada and reasonably suspects that that person may within 24 hours of being charged again commit a similar offence, the police officer orders the installation of an immobilization device;

- The police officer telephones the towing company and advises that a vehicle immobilization device is required. The following information is provided:

    - Make, color and model of the vehicle;
    - Licence number of the vehicle;
    - Name of the driver of the vehicle;
    - Name of the registered owner of the vehicle;
    - Location of the vehicle;
    - Period of time during which the immobilization device must remain installed, i.e., a device installed at 3:00 a.m., may not be removed until 7:00 p.m. the following day (16 hours).

- The police officer ensures that the vehicle was legally parked and completes the Immobilization Notice containing the disclaimer and other relevant information. A copy of the notice is given to the person charged and to the towing company.

Note: These procedures vary slightly depending on the specific requirements of each police service.

Towing Company Procedures

The towing company:

- Installs the boot at the request of the police officer;

- After the immobilization period has expired and the fee has been collected, removes the immobilization device within two hours (total period of time not to exceed 24 hours);

- In the event the person authorized by the police to claim a vehicle appears to be intoxicated, the towing company personnel advises the police immediately;

- In circumstances where the declamping fee is not paid, the towing company removes the boot, tows the vehicle and stores it in their compound, until the vehicle is claimed. Both the declamping fee and towing fee must be paid.

Media/Public Reaction

A press release was issued in conjunction with the local police service immediately prior to the launch of the program in each center. The media and public reaction in all cases was very positive. Extensive coverage was given of the program in each location by the major newspapers, local television, and radio stations. Interviews and demonstrations of the boot installation were provided to all interested parties by police services. In one case a local radio station announced the location of immobilized vehicles so that passing motorists could take notice.

Number of Auto Boot Installations

During the three month pilot project a total of 29 boots were installed in Calgary and seven in Lacombe. The program did not operate on a full-time basis until July 1989 when it began again in Calgary and Lacombe and expanded to other areas thereafter. During the period of July 1989 to February 1990, a total of 187 boots were installed. Calgary and Medicine Hat had the highest usage, with 91 and 70 boots installed, respectively. Lethbridge installed 14 boots while Edmonton and Lacombe each installed six.

Tampering with the Auto Boots

On one occasion a driver whose vehicle had been immobilized was able to remove a Palma Auto Boot from his vehicle. The auto boot was not properly installed, which allowed the driver to remove the wheel. The boot was not removed from the rim and tire. The driver was in the process of installing his spare tire, when observed by a passing police cruiser. The driver was charged with mischief and obstruction and has not yet appeared in court.

Vandalism/Theft

The police initially expressed a concern about the potential for vandalism of or theft from an immobilized vehicle. To date there have been no incidents of vandalism or theft from vehicles immobilized by the police.

Liability Issue

Initially, municipal police forces and the RCMP raised a concern about liability and were reluctant to participate in the program, until the department provided them with a letter of assurance indicating that they be "held harmless" for liability unrelated to their negligence or misconduct.

The Insurance Bureau of Canada advised the Alberta Solicitor General, in writing, that the insurance industry supports the vehicle immobilization program and that all immobilized vehicles insured for vandalism and theft will be covered.

Alberta Treasury, Risk Management, advised that in their opinion the risk involved in the operation of this program is minimal, providing the waiver form is used and the police use reasonable discretion, i.e., not leaving an expensive vehicle immobilized in a high crime area.

Conclusions

The vehicle immobilization program has received a very positive response from the general public. Alberta is the only jurisdiction that uses this unique approach to immobilize vehicles of persons charged with impaired driving.

The program is deemed successful because it has prevented persons charged with impaired driving from re-offending and it serves as a reminder to the general public about the consequences of impaired driving. It also has the potential to embarrass persons charged with impaired driving, particularly in smaller communities.

This program has served as an additional enforcement tool in the fight against impaired driving. Work is continuing on expanding the program to all areas of the province and to increase the program's profile by the use of news media and advertising.

ALCOHOL DETECTION METHODS IN BREATH COMPARED TO BLOOD

Dr. Bernd Friedel

Dr. Friedel is a director and professor at the Federal Highway Research Institute in Germany

Introduction

In the Federal Republic of Germany, legislation regarding fitness to drive after alcohol consumption is based on blood-alcohol levels. Certain breaches of traffic regulations are also based on these levels. Breath tests, however, are not yet recognized as valid indices of blood alcohol content.

The latter method has the decisive advantage of providing quick results without need for blood samples to be taken. The breath-alcohol analysis is therefore considered a suitable method for efficient traffic monitoring. In 1987, the Federal Minister of Transport commissioned the Federal Office of Health to conduct research into the reliability of this method in providing accurate results.

The research work was to answer the following questions:

- Is the breath-alcohol test suitable for forensic practice? (equipment test)
- Which preconditions must be satisfied to ensure the maximum reliability of the method? (process development and testing)
- Is it possible to define variables for breath-alcohol levels which correspond to the blood-alcohol values which currently apply in legislation and jurisdiction? (definition of limit values).

In various publications Schoknecht et al. (1, 2, 3) have reported on the results which have been achieved to date. These publications have been taken as the basis for examining the current state of affairs using a number of selected problem areas.

The Influence Of Temperature In Breath-alcohol Analysis

The alveolar air, which is saturated with alcohol at a body temperature of 37°C, cools down to 34°C during expiration, a part of the alcohol condensing in the respiratory tracts. Experimental tests were conducted to determine the dependency of the distribution coefficient K on temperature.

$$\left(k = \frac{\text{Alcohol level in gas}}{\text{Alcohol level in blood}}\right)$$

The test showed that the breath-alcohol level changes by more than six percent for every one degree celsius change in temperature. By employing a fitting function, the breath-alcohol concentration measured at a specific temperature can be converted to a reference temperature of 34 °C.

Tests have shown that the breathing technique (i.e., inspiration through nose or mouth, hyperventilation through open mouth) has a significant effect on the temperature of the breath measured at the breathalyzer mouthpiece. Measured alcohol values can be corrected where temperatures have been reduced through hyperventilation.

To ensure that breath-alcohol measurements are performed on a sound forensic basis, it is therefore essential to measure the breath temperature. The recommendations of the Organisation Internationale de Metrologie Legale (OIML) thus were extended, because the 1987 version did not take into account this important temperature factor. The measurement value correction should be based on a reference temperature of 34°C.

In (3), Schoknecht entered into particular detail regarding temperature measurement. The measuring instruments need to be robust enough for practical use and must react quickly to changes in breath temperature. An electrically heated mount was developed for the temperature probe in order to reduce the effect of disturbances.

This mount reduces the influence of the mouthpiece to around -0.03 °C and allows measurements to be performed relatively independently of the ambient temperature.

The Influence of Breath Volume in Breath-alcohol Analysis

The measurements conducted in the research work referred to above also revealed that reliable results could only be achieved if the breath volume was more that 70 percent of the vital capacity. The minimum values referred to in the OIML recommendations quoted above are inadequate to ensure that the alveolar air is measured. A recording of the concentration profile obtained in the breath-alcohol test would seem necessary in order to be able to safely conclude the presence of alveolar air ("slope detection") when this curve reaches a plateau.

The expiration volume has virtually no influence on breath temperature.

Reliability of Breath-alcohol Testers

The reliability of breath-alcohol testers was assessed using numerical data on accuracy, precision, analytical sensitivity, drift and hysteresis. Extensive equipment tests were conducted with two infrared devices (alcomat, alcotest 7110) and a device equipped with a fuel cell (alcometer EBA). The date of the OIML from 1987 was taken as a basis for the error limit values. The results for accuracy (See Figures 1 and 2) revealed systematic deviations (difference between the mean value of a series of tests and the true value) lay within the error limits in all cases. The precision of units was described by the distribution of the individual measuring values in a series of repeat measurements. The results obtained were markedly better than the OIML error limit. (See Figures 3 and 4)

Fig. 1: Results of Accuracy Tests on Infrared Measuring Instruments and OIML Error Limits

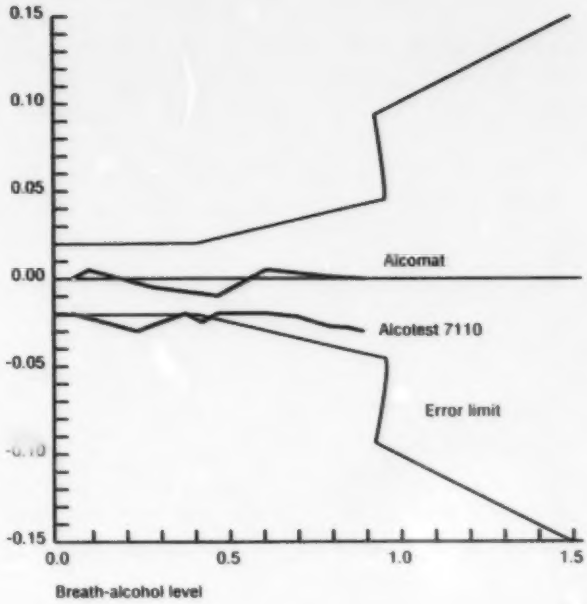


Fig. 2: Results of Accuracy Tests on the Fuel Cell Unit and OIML Error Limits

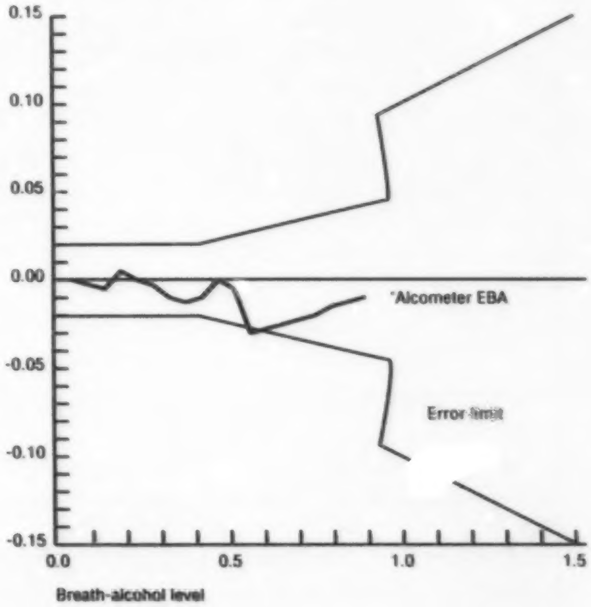


Fig. 3: Results of the Precision Tests on Infrared Measuring Instruments and OIML Error Limit

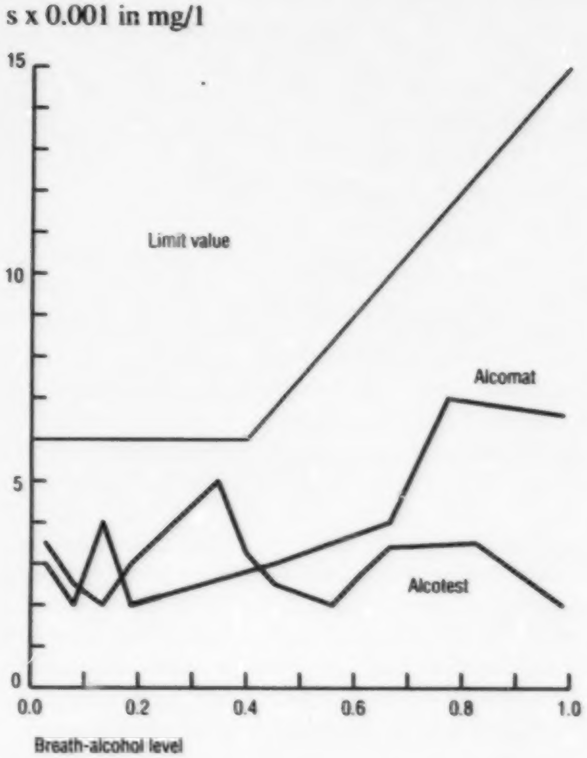
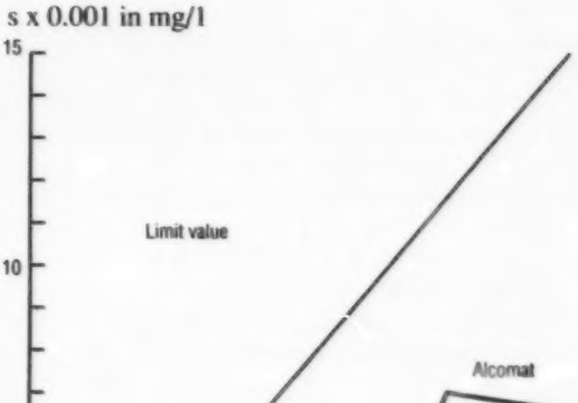


Fig. 4 Results of the Precision Tests on the Fuel Cell Unit and OIML Error Limit



The OIML requirements were also satisfied with regard to drift (the degree of time-dependent, systematic increase or decrease in measured values for the same sample material). For physical reasons, the infrared measuring instruments are far superior to the fuel-cell unit when examining how measured values are influenced by the sequence of preceding measurements (hysteresis). The latter method fell just short of the OIML requirements. The analytical specificity was described by the specification of the sensitivity of a measuring instrument to foreign substances. This cross-sensitivity was absent from the fuel-cell unit vis-a-vis acetone. With respect to the other alcohols examined, namely methanol and isopropanol, no significant differences were discovered between the units. The limit values for methanol were complied with.

All in all, the test results revealed that modern instruments offered high reliability. The presence of foreign gases can also be ascertained through recent technological developments (e.g., spectroscopy with two wave length ranges). An appropriate error indication is therefore advocated.

Definition of Limit Values

The chronological profile of the alcohol levels in breath and in arterial and venous blood after oral ingestion are known from studies conducted by Martin et al (4) and by Loos and Heifer (5). The differences between the breath-alcohol level and the alcohol level in arterial blood are minimal. During the ingestion phase, however, the breath-alcohol levels are higher than the venous blood-alcohol values, the differences drawing closer in the elimination phase.

Due to legislation in the Federal Republic of Germany, no test is performed when determining blood-alcohol levels to ascertain whether the person being tested is in the ingestion phase. The measured value is interpreted as a maximum value. Taking this method of procedure as a basis, a comparison of the maxima in the blood-alcohol and breath-alcohol profiles would seem adequate. The drinking tests revealed that the maximum breath-alcohol levels in relation to the blood-alcohol levels do not exceed 20 percent of the blood-alcohol value. The breath-alcohol values were converted into blood-alcohol quivalent values by applying a factor of 2.1. The blood-alcohol limit values can be converted into breath-alcohol limit values on the basis of these results. The breath-alcohol measurement should be performed twice.

Further Procedure

The research project "Testing the Validity of the Breath-Alcohol Analysis as Admissible Evidence in Court" commissioned by the Federal Office of Health in Berlin will summarize the requirements to be made on the analytics of the breath-alcohol analysis in the concluding report. This report will deal with measuring accuracy and technical requirements, determination of breath temperature and breath volume, the process to be employed, measuring reliability, quality assurance (e.g., type approvals, calibration) and practical requirements, and will also define the requirements which have to be satisfied in each case. The final report, expected in 1991, will take particular account of the influence of breath temperature on determining alcohol levels.

References

1. G. Schoknecht, B. Kophamel: Das Temperaturproblem bei der Atemalkoholanalyse Blutalkohol Vol 25 No. 6, 1988

2. G. Schoknecht, K. Fleck, B. Kophamel: Die Zuverlassigkeit von Atemalkoholme Bgeraten Blutalkoho. Vol 26, 1989

3. G. Schoknecht, B. Kophamel, B. Barduhn: Temperaturmessung bei der Atemalkoholanalyse Blutalkohol Vol 26 No. 3, 1989

4. E. Martin et al.: The Pharmakobinetics of Alcohol in Human Breath, Venous and Arterial Blood After Oral Ingestion Enr J Clin Pharmacol (1984) 26, 619-626

5. U. Loos, U. Heifer: Uber den zeitlichen Verlauf von Atem-und venoser Blutalkoholkonzentration und von Alkoholwirkungen Blutalkohol Vol 16, 1979 pp. 321-339

CALIFORNIA HIGHWAY PATROL'S DUI COST RECOVERY PROGRAM

Maury Kane

Mr. Kane is a public affairs officer with the California Highway Patrol

The Cost Recovery Concept

Every year, the California Highway Patrol investigates approximately 15,000 collisions where the driver is arrested for impaired driving. The time spent in manpower and equipment is worth hundreds of thousands of dollars. In an effort to further discourage this kind of activity, the State Legislature and the California Highway Patrol developed a unique plan. Now, anyone who causes a collision due to their intoxication within the jurisdiction of the California Highway Patrol, will be billed for the full services of that agency.

In a recent speech the Commissioner of the California Highway Patrol, Maurice J. Hannigan, put it most succinctly when he said, "The California Highway Patrol has specifically set aside impaired driving as a behaviour which taxpayers would not have to subsidize. Because of the drunk drivers' actions, the State of California lost the road patrol services of CHP officers for the amount of time it took to respond to the scene, transport and book them, store their vehicles, and complete investigative tasks. The statute renders the violator liable for the cost of that lost time."

History of the Cost Recovery Plan

The original idea of cost recovery came from a practice employed by local fire departments.

The fire departments would send along a bill to those who negligently started fires or pulled false alarms. In 1986 the State Legislature, with input from the California Highway Patrol, enacted the "Cost Recovery Law" whereby any public agency may recover the cost of an emergency response. To effect a recovery, the response must fall within two categories:

- A collision caused by an impaired driver;
- A criminal act.

The California Highway Patrol became the first agency to implement the law and studies began immediately to determine the most cost-effective approach.

Structure

The California Highway Patrol determined that the most cost-effective approach was centralized, direct billing by the primary agency. In California, this means that completed cost-recovery report packages are sent to headquarters in Sacramento and that billing and collections are handled by this office.

Accounting

Accounting is quite simple as police dispatch centres maintain records as to the exact time an officer responds to a scene, until he or she is completely clear of the incident. The next consideration is to determine the hourly cost of maintaining a California Highway Patrol Officer and his or her equipment in an on-duty status. This, incidentally, is more costly than it would seem.

Application

The California Highway Patrol will bill a defendant only after they have been convicted of impaired driving, resulting in a collision. Recovery is limited to $1000 per incident.

Administrative Costs

Additional accounting personnel and equipment are costing the department approximately $100,000 a year. Based on collections to date, the California Highway Patrol conservatively estimates that the program will generate approximately $400,000 annually. The funds are deposited in the State of California's motor vehicle account. This account funds the Department of Motor Vehicles and their public education programs.

Program Philosophy

The California Highway Patrol's DUI Cost-Recovery law and policies are based on the premise that taxpayers should not have to bear the emergency response costs necessitated by drunk drivers. In this act, the California Highway Patrol and the State Legislature specifically set aside impaired driving as a behaviour taxpayers should not have to subsidize.

R.E.D.D.I. PROGRAM

Fred Zwonechek

Mr. Zwonechek is an administrator with the Nebraska Office Of Highway Safety (NOHS)

Nebraska's REDDI (Report Every Drunk Driver Immediately) Program was created out of a need to bring home to the residents of the State, in an imaginative and personal manner, the magnitude of alcohol-involved crashes in the State and the personal and tragic losses which are borne by innocent victims every day.

Nebraska, as does every other state in the Union, has a problem with drunk driving. In 1980, drunk drivers were reportedly involved in traffic crashes which killed 165 people and injured 3,150 others. In May of 1981, the State's fatality count was 25 higher than in 1980, and an increasing number were becoming alcohol-related.

Emotionally, the problem is shattering. In many cases, families disintegrate as drunk drivers kill parents and/or children. Often victims of these crashes are people who just happen to be in the wrong place at the wrong time. The drunk driver often survives and faces relatively minor social and legal consequences.

The drunk driver is the most dangerous traffic problem we face. The severity of these crashes caused by drivers who are unable to control both their behaviour and their vehicles are easily attested.

In 1980, nine percent of all the traffic accidents in Nebraska were alcohol-related. That was 2,919 alcohol-related crashes out of a total of 44,685. However, these alcohol-related crashes caused 42 percent of the fatality rate (165 fatalities out of total of 396).

Economically, the problem is the major drain of public and private funds. Conservatively speaking, in 1980, drinking drivers cost Nebraska taxpayers more than $35,000,000.

Medical and dental expenses, insurance costs, welfare payments, and road repair are but a few of the obvious costs. There are also other less obvious costs. State government pays when the expenses become too burdensome for individuals to meet. Private businesses pay when employees need time off to recuperate from injuries, or when new employees must be trained to replace the employees killed or permanently disabled in traffic crashes. Local law enforcement agencies' budgets are strained by the time and money needed to deal with the drinking drivers in their areas.

The Solution

There is probably no one solution to the drinking driver problem. However, a number of countermeasures will help. These countermeasures include:

- Stricter laws governing the arrest and treatment of drinking drivers;
- Additional funding to support tighter enforcement of present laws; and
- A change in attitude by the general public toward drinking drivers.

The first two countermeasures need legislative and political support. This involves much in the way of time and public support.

The third countermeasure will also take time. It is difficult to change public attitude. However, campaign REDDI is the first step in the process. In order for the first two countermeasures to be plausible, public opinion must be supportive. Therefore, a public awareness and involvement campaign was essential. Public attitude is based on people's backgrounds and experiences. It is reinforced by consensus. When people begin to question their attitudes, consensus breaks down, they become predisposed to change. Personal involvement is the best way to influence people and facilitate change. The short-range goal of REDDI is public involvement to help in apprehending drunk drivers. The long-range goal is to change the public attitude toward drinking drivers.

Today, in this country, for whatever reasons, people sympathize and often empathize with the drunk driver. He or she is often portrayed as the "victim" — everyone knows of someone who got a DWI citation. The idea that his or her insurance rates are bound to go up, his or her licence could be suspended, his or her job might be in jeopardy, and that his or her family would surely be embarrassed are but a few of the things that the average citizen recognizes. Certainly this individual was portrayed as the "victim" when he or she appeared in court. Maybe this is true because the problem is so widespread. Most people have, at some time, been guilty of driving after drinking themselves.

The empathy and sympathy must be transferred from the drinking driver to the potential and actual victims of the drinking driver. People must understand and accept the fact that driving after drinking is not just a "bad idea" or "antisocial behaviour," but potentially "criminal behaviour". And that in irresponsible hands a vehicle is a lethal weapon.

With this frame of reference, people should be as willing to report a drunk driver as a prowler. And those people themselves should think twice about driving after drinking lest they also commit a criminal act.

Also, too many people felt that the drunk driver was totally the responsibility of law enforcement authorities. Too often when a motorist saw a drunk driver, his or her attitude was, "Where's a cop when you need one?"

Whenever a serious alcohol-related fatal accident occurred, the public wanted to know why the law enforcement agency didn't stop him or her before it happened. Obviously, law enforcement people cannot be everywhere at the same time. This was emphasized to the public that the responsibility is not law enforcement's entirely, but its own.

Order of Implementation of REDDI Activities

The campaign was initiated by a press conference with Governor Charles Thone on May 22, 1981. The Governor appeared with a Colonel from the Nebraska State Patrol, a representative from the Nebraska Sheriff's Association, and a representative from the Nebraska Police Chief's Association. Press releases were also issued to all radio, newspaper, and television stations throughout the state. The press coverage of the event was tremendous.

A letter from the Governor, along with a sample of the poster and brochure, was sent to all law enforcement agencies throughout the state. They were asked to participate in the REDDI effort and were requested to send in to the Highway Safety Office the amount of brochures and posters they would distribute.

In addition, such groups as REACT, the Nebraska Beverage Retailers Association, the Nebraska Women for Highway Safety, and various other traffic safety related groups were asked to participate in the program and distribute brochures and literature. Posters and brochures were distributed by Nebraska state and motor vehicle inspection officers to all approved state inspection stations across the state. All driver licence exam stations also distributed brochures to all new driver's licence applicants. Brochures were placed in all state-owned vehicles. In addition, these brochures were reprinted and sent to all Nebraska state AAA members. Nebraska insurance companies and agencies were also used to distribute brochures and posters.

During the REDDI campaign, over 300,000 brochures and 20,000 posters were distributed. The electronic media were also used to promote the REDDI campaign. Radio public service announcements were prepared by the Nebraska Office of Highway Safety and distributed to all radio stations throughout the state. In addition, six 30-second television public service announcements (PSA) on Campaign REDDI were also produced and distributed to all television stations throughout the state. The campaign experienced no difficulty in getting PSA's played by the electronic media.

Also, a three minute public service program, "Decision Now", on drunk drivers and Campaign REDDI was produced by the Nebraska Office of Highway Safety (NOHS) and distributed to all commercial and cable broadcasting facilities throughout the state. To date, this program has been aired 28 times on 12 commercial and cable stations, some repeating the program several times.

Because of the success of play for "Decision Now", another 30-minute program was produced ("Growing Pains"), this time targeting the teenage drinking driver. This has been aired 22 times to date. In addition, six 30 second PSA's, aimed at the young driver, were also distributed.

In order to tell people how the program is doing and to say "thank you, it's working", we regularly report back to the citizens the number of calls received by law enforcement and the number of those contacts resulting in DWI arrests.

During the June 1981 through December 1983 period of the REDDI campaign, there were a number of significant changes in the traffic safety picture in Nebraska. Law enforcement officers throughout the state have received over 5,367 telephone and CB reports of suspected drunk drivers. Of this number, law enforcement officers have been able to stop over 2,994 drunk drivers resulting in 2,345 arrests for DWI. Although these totals are encouraging, we know that these totals are underreported. Law enforcement agencies only submit the reported calls to NOHS voluntarily; some don't have the manpower or a system to record such calls. One could only imagine the deaths, injuries, and accidents these drivers may have caused had they not been reported by a caring community; that is the most positive aspect of the program. These drivers were removed from the roads before anyone got hurt.

Some of the data available from the June 1981 through May 1982 period indicated that this effort may be responsible in part for the most significant reduction in fatalities recorded. There were 100 fewer fatalities for this period compared to the same previous 12 month period, or a 26 percent reduction in fatalities. In addition, for the first time Nebraska experienced a lower fatality count for July through December of the calendar year, compared to the first six months of the year, yet travel was up three percent.

Nebraska led the nation with a 31 percent reduction in traffic fatalities when comparing the 1982 toll of 261 with the 1981 toll of 378. Included in the 117 fewer fatalities were 90 fewer alcohol related fatalities reported. What makes these totals even more remarkable is that the total number of vehicle miles travelled in Nebraska were down less than one percent. In 1983, despite a 2.1 percent increase in miles travelled, Nebraska's traffic death toll was 255, the fewest since 1945.

Preliminary totals indicate that DWI arrests were up 18.5 percent in 1982. Law enforcement agencies arrested more individuals in 1982 than any previous year. The previous high of statewide arrests for DWI was 1979, when 9,433 were arrested. A NOHS survey of just 43 of the 393 law enforcement agencies reported 9,883 arrests for 1982. Some of the larger agencies reported a greater than 50 percent increase. Arrest for DWI reached an all time high in 1982 with 10,033 arrests. A sampling for 1983 indicates a 16 percent increase over 1982's DWI arrest totals.

One interesting observation was made on a news story about the life-flight helicopter service in the Omaha area. Demand for the service was lower than expected in 1982 and an official suggested the emphasis on the DWI had reduced the necessity for the service in vehicle accidents.

Because of the attention the program has received, perhaps drivers are more safety conscious. Perhaps the image of innocent victims is making the more responsible person control his or her drinking and driving. Or, perhaps, the fear of being reported is helping him or her make wiser decisions, because now the drunk driver not only has to keep his or her eye out for that law enforcement officer, but he or she may also be becoming aware of all those other "eyes" watching his or her dangerous driving.

This program indicates that a motivated community does respond to a call for help.

Additional Effects of Campaign REDDI

There are some things that have occurred during the past two years which may be indirectly attributable to the REDDI campaign.

For the first time in several years, several legislators proposed new DWI legislation, and many contacted the Office of Highway Safety for other traffic safety-related problems. The Legislature did, in fact, pass a new DWI bill.

The Nebraska State Legislature, for the first time in the history of the Nebraska Highway Safety Program, appropriated state funds to be spent to impact drunk drivers. In addition, the legislature also formed an interim study committee to study the drinking driving problem in Nebraska and propose possible solutions.

Another observation that can be made is that the news media's attention to traffic accidents has grown significantly. In local news programming, accidents used to be reported toward the middle or end of a newscast. Now, in many cases, they occupy lead stories. Television newscasts have devoted much attention to DWI issues, with special news series reports. Particularly interesting is the fact that now reporters are reporting alcohol involvement.

In 1982, the first three MADD (Mothers Against Drunk Drivers) chapters were started and actively supported and encouraged the REDDI project.

Many newspapers throughout the state carried editorials dealing with the problem of drinking drivers. The press clipping file, which we have always maintained, more than tripled in size. Many of the newspapers appeared to have significantly increased their awareness of traffic safety problems and have reported on several articles released from other sources (Insurance Institute for Highway Safety).

Summary

Because of the attention the program has received, perhaps drivers are more safety conscious. Perhaps the image of innocent victims is making the more responsible person control his or her drinking and driving. Or, perhaps, the fear of being reported is helping him or her make wiser decisions, because now the drunk driver not only has to keep his or her eye out for that law enforcement officer, he or she is also becoming aware of all those other "eyes" watching his or her dangerous driving. Through this program, we not only hope to stop more of these most dangerous of all drivers, but to reduce their total number on the road through their own willingness to control their drinking and driving.

The REDDI campaign, whether it has a direct impact upon the number of alcohol-related accidents or not, has been a very positive program in terms of traffic safety in Nebraska. It has motivated Nebraska citizens, associations, law enforcement, and law makers into recognizing the severity of traffic accidents both emotionally and economically. It has generated a new awakening of the silent majority who do want to do something about the problem. As in any campaign, you need to develop a grass roots constituency. A program such as REDDI has been an initiator in developing that constituency. Support and concern seem to be developing daily and the response has been overwhelming.

This particular problem affects all age groups in all geographical areas and limits no one from contributing. It has given the community the means to participate in a severe traffic safety problem. It has given law enforcement authorities a positive shot in the arm in terms of the way the community perceives its role. In fact, several communities that had not been particularly traffic safety oriented, especially in respect to DWI's, have begun new projects to address the problem.

LICENCE SUSPENSION/REVOCATION PROGRAMS: RESTRICTING DRIVING PRIVILEGES FOR DRUNK DRIVERS

CANADA

Herb M. Simpson, Ph.D.

Dr. Simpson is the Executive Director of the Traffic Injury Research Foundation of Canada

Introduction

This paper reviews the use of licence "suspension" as a drinking-driving countermeasure. It examines the concept in terms of its rationale and demonstrated effectiveness, and reviews practices in jurisdictions across Canada. The purpose of the review is not to document the various procedures in detail; provincial legislation, for example, is often extensive and complex. Rather, the intent is to provide an overview that indicates the extent of use of the procedure and underscores any major differences. The underlying premise is that licence suspension offers an effective drinking-driving countermeasure that has not yet been explored to the fullest extent in Canada.

Definition of Terms: Suspension, Revocation, Cancellation And Prohibition

The terms suspension, revocation, cancellation, and prohibition are often used interchangeably but strictly speaking refer to different practices. The first three terms normally refer to actions taken against an individual's driving licence or permit. Suspension is the temporary removal of the driving permit; revocation is its permanent withdrawal. In both cases, however, the licence, in theory, still exists. Cancellation, as the word suggests, involves not just withdrawal of the licence from the operator but the repeal of the licence itself. Clearly, although suspension, revocation, and cancellation are actions involving the driver's permit, the primary target of the action is the behaviour of the driver. Without a licence, the individual is not permitted to drive. Moreover, and not unimportant, the removal of the licence is assumed to carry added punitive effects because of the secondary utility of a driver's licence (e.g., identification) and its symbolic value (status).

In contrast to the indirect action of suspension, revocation, and cancellation, prohibition is a direct constraint levelled at the individual that bans them from driving. It may or may not be accompanied by licencing action. So, it is possible for an individual to retain their licence even though they are prohibited from driving. Usually, the latter situation arises when the licencing action itself is outside the mandate of the agency ordering the prohibition. For example, federal statutes within the Criminal Code of Canada include a prohibition from driving for certain offences. Any licencing actions associated with such court-ordered prohibitions are, however, the prerogative of provincial licencing agencies. Thus, licence actions are included as provisions within the provincial/territorial Highway Traffic Act (or their equivalent) in response to, or in addition to, court-ordered prohibitions. This discussion of the differences between the various actions is not merely academic — it is descriptive of actual differences in the practices of various jurisdictions in Canada (as described later in the paper). Of course, it could be argued that despite differences in the meaning of the terms, they are often used interchangeably and, certainly in the mind of the public, the actions are equivalent since the net result is a loss of driving privileges.

Purpose of Licence Suspension

Licence suspension has for years been regarded as the "teeth" of the driver-improvement system. Historically it has been, in effect, the ultimate sanction and often administered as the last resort in attempts to deal with high-risk or problem drivers. In recent years, it has become one of the principal sanctions for dealing with drinking-drivers. Licence suspension is administered for two principal reasons: punishment and safety. First, it is a punitive measure imposed on individuals who have transgressed the law; it is considered punishment because a valued or cherished privilege, driving, is removed. As a punitive measure, licence suspension is assumed to work as both a specific and general deterrent. As a specific deterrent, licence suspension is assumed to punish the individual convicted of a drinking-driving offence and thereby reduce the likelihood of subsequent dangerous driving by that individual, when the privilege is reinstated. As a general deterrent, the threat of suspension is believed to decrease the likelihood of drinking and driving by persons who have never been arrested for impaired driving.

The second principal reason for the use of licence suspension is safety: it removes high risk or noncompliant drivers from the driving population, so that they cannot be a danger to themselves and to other road users. Of course, the removal is by no means complete since it is well known that large numbers of suspended drivers continue to operate vehicles (e.g., Ross and Gonzales, 1988). This has become of increasing concern to many agencies and suggested to some that licence suspension is obviously not effective. This issue is considered in more detail below. Briefly, and in anticipation of what follows, there is compelling evidence that even though many individuals drive while under suspension, their rates of collision- and violation-involvement are substantially decreased either because they drive less, or more cautiously, or under conditions of lower risk.

Effectiveness of Licence Suspension

Effectiveness as a Specific Deterrent

One of the primary purposes of licence suspension is specific deterrence punishing the individual convicted of a drinking-driving offence and thereby, reducing the likelihood of subsequent dangerous driving by that individual. Numerous carefully designed studies have evaluated whether or not licence suspension produces the specific deterrent effect for which it is intended. At issue in such studies is whether the effect is noticeable both during the time of suspension and after it. Theoretically, it should be 100 percent effective during the time of suspension, given that the convicted individual has no licence to drive. However, as indicated previously, it is well known that many individuals still drive while disqualified (e.g., Ross and Gonzales, 1988), so studying the impact of suspension during the course of the prohibition itself is not irrational. Such studies also examine the impact beyond the period of suspension to determine whether the specific deterrent effect is long lasting.

Carefully controlled evaluations of the specific deterrent effect of licence suspension have been conducted in the United States (e.g., Blomberg, Preusser and Ulmer, 1987; Johns and Pascarella, 1971; Hagen, 1977; Hagen, McConnell and Williams, 1980; Sadler and Perrine, 1984); one relevant study was conducted in Australia (Homel, 1980); and, a recently released report summarizes the findings of a study in Canada (Mann, Vingilis, Gavin, Adlaf and Anglin, 1989). To study the impact of licence suspension, most investigators use a pre-post design in which a comparison is made between the accident and violation records of individuals subjected to the intervention before and after licence suspension. Usually, several years experience before the suspension is compared to that for several years after. In some cases, comparison groups are included as a control for general sources of confounding and in some cases fairly sophisticated multifarious statistical analyses are used to control for other potentially confounding factors. Briefly, considerable confidence can be placed in the findings of these studies particularly given the quality of the research (usually several thousands of drivers) and the convergence (consistency) of findings. Based on a comprehensive review of the literature, leading experts in the field concluded:

> *...there is no question that licence suspensions have a significant effect in reducing the accident and drunk driving frequency of convicted DUI offenders. (Peck, Sadler and Perrine 1984, p. 34)*

The findings of all these studies have consistently shown the specific deterrent effects of licence suspension — persons who receive a licence suspension for drinking-driving offences have better subsequent safety records (fewer violations and accidents), both during the time of suspension and after it (the effects outlive the period of suspension). The total number of accidents is reduced by as much as 50 percent during the period of suspension.

General Deterrent Effects

Another important aspect of licence suspension is general deterrence by decreasing the likelihood of drinking and driving by persons who have never been arrested for impaired driving. The literature on the general deterrent effect of licence suspension is not nearly as voluminous as that on specific deterrence but the findings are consistent. Studies in Iowa, Minnesota, and Wisconsin have shown substantial reductions (as much as 25 percent) in the overall incidence of alcohol-related crashes. That is, the measure had a preventive impact on the behaviour of the general driving population — the incidence of alcohol-related collisions among individuals, who were not arrested, showed a decrease concurrent with the introduction of the licence suspension provision (Blomberg, Preusser and Ulmer, 1987; National Transportation Safety Board).

Relative Effectiveness of Licence Suspension

One of the reasons that licence suspension has been accepted so enthusiastically as a drinking-driving countermeasure is that research has shown it to be not only an effective measure, but relatively more effective and considerably more cost effective than other traditional measures. For example, two major studies conducted in California as part of a seven year evaluation of various drinking-driving countermeasures compared the relative effectiveness of licence suspension with participation in a 12-month alcohol treatment program (Hagen, Williams, McConnell and Fleming, 1978; Sadler and Perrine, 1984). In the more recent study, the group of convicted DUI offenders who received treatment had 30 percent more accidents than the group receiving a licence suspension. In addition to the findings of these studies that tested the hypotheses directly, other related evidence has been reviewed by Peck, Sadler and Perrine (1984) who concluded:

> *The existing research evidence also shows that licence suspensions are more effective than any known form of alcohol education or rehabilitation.... (p. 34)*

Licence suspension has also been compared to fines and jail terms. In studies conducted in Australia (Homel, 1980) and in Canada (Mann, Vingilis, Gavin, Adlaf and Anglin, 1989) it has been shown that licence suspension was consistently associated with traffic safety benefits; however, a consistent effect for jail terms and fines could not be detected. On the basis of such work, H. Laurence Ross and Phillip Gonzales (1988) recently concluded:

> *Much research has found that drunk-driving law violators who receive licence suspension and revocation have considerably better subsequent safety records, in terms of both accidents and violations, than do offenders who have received other penalties. (p. 379)*

This is not to suggest that these other measures are ineffective and should be discarded, but rather that because licence suspension is relatively more effective, it should almost always be considered as a key component of any package of drinking-driving countermeasures, in addition to other measures.

Length of Suspension

As described in more detail below, in practice, the length of disqualification imposed on the offender varies not only with the severity of the offence and the number of times it has been committed by the individual but as a function of the jurisdiction, i.e., the practice is not standardized. In this context, and at issue here is whether or not there is evidence that a particular length of time is more effective. Some guidance is offered from the findings of a study by Homel (1980), who concluded that periods of disqualification beyond 60 days were not associated with lower rates of reconviction, except among "good risk drivers". For these individuals, longer periods of disqualification (12 to 18 months) were associated with lower rates of reconviction for traffic violations. If such results can be generalized, it seems that a 12-month suspension for first time offenders may, in fact, be reasonable and effective. What is not clear is whether longer suspensions are effective for multiple offenders. In this case, it is becoming increasingly clear that licence suspension alone will have little impact with repeat offenders. Multiple DWI offenders likely require additional measures such as assessment for alcohol-related problems and treatment/rehabilitation where appropriate.

Effects of Mandatory Licence Suspension

Traditionally, and particularly within the Criminal Code of Canada, sanctions are imposed at the discretion of the court. Maximum sentences are usually established but within that ceiling, the court can set punishment based on the characteristics of the case in question. Indeed, with the exception of the sanctions for impaired driving, few Criminal Code of Canada convictions carry with them minimum mandatory punishments. This rather unique provision has in fact been part of a recent challenge in Quebec Superior Court. The issue in this challenge was whether or not a mandatory minimum punishment was justifiable.

Evidence for the importance of the mandatory application of licence suspension comes from a major study commissioned by the United States National Highway Traffic Safety Administration (Blomberg, Preusser and Ulmer, 1987). The study was conducted in the State of Wisconsin, since it offered the ideal conditions for testing the hypotheses. For example, in 1981, 45 percent of convicted drinking drivers actually lost their licence. In 1982, mandatory loss-of-licence legislation was implemented and from May 1982 to December 1985, 100 percent of convicted DWIs lost their licences for at least 90 days. Results of the study showed that mandatory application of licence suspension produced a statewide reduction in alcohol-related crashes (general deterrence) as well as reduced repeat offences of driving while impaired among those that were convicted (specific deterrence). A time series analysis of statewide accident data for the years 1977 through 1985 showed a significant reduction in alcohol-related crashes beginning in 1982. Prior to 1982, the rate of alcohol-related crashes remained unchanged. In fact, there was actually a slight increase. This was altered abruptly in 1982 (the start of 100 percent licence suspensions). The average number of alcohol-related crashes decreased by approximately 25 percent in 1982 and this continued through to 1985, when data gathering for the study was completed. It is important to recognize that licence suspension was in place as a sanction prior to 1982 but only some 45 percent of drivers received it. When it became mandatory, significant effects were observed.

The findings of this study suggest that discretionary application of licence suspension is not as effective as mandatory application. Of course, there were substantial differences in the levels of application of suspension (45 percent compared to 100 percent), so the study does not indicate what would happen if slightly lower rates of discretion were in place. Indeed, there is no direct evidence bearing on this. But there is indirect evidence and expert opinion that shows the "certainty" with which a drinking-driving countermeasure is applied determines its effectiveness. If the perceived likelihood of arrest or conviction is low, the impact of the countermeasure is minimal. Several studies have amply demonstrated how the application of discretion, either by the police or the courts, reduces the effectiveness of the law (Meyers, Heeren and Hingson, 1989; Ross, 1988; Ross and Foley, 1987; Ross and Voas, 1989). This appears to have been a factor in the decision of some states to move toward mandatory licence suspension.

Why Does it Seem to Work?

The evidence reviewed above indicates that licence suspension is an effective drinking-driving countermeasure. Some would argue that is all we need to know; others would like to determine why it works, with whom, and under what circumstances, so that the system can be refined and made more efficient. Theoretically, licence suspension satisfies the basic requirements of an effective deterrent — certainty, severity, and celerity. As described in more detail below, prohibition from driving and licence suspension are mandatory sanctions for impaired driving related offences in Canada. The mandatory feature of the sanction means that the convicted driver is certain to receive the punishment, so the first requirement of an effective deterrent is satisfied. Licence suspension is also believed to be severe. It is well established that the driving licence and the privilege to drive are cherished within North America and removal of the privilege is regarded as strong punishment. Indeed, it is well known that many people would actually prefer to serve time in jail in lieu of having their licence suspended. So, suspension satisfies the second aspect of deterrence. Perhaps the weakest feature of licence suspension, as practiced in Canada, is its celerity — swiftness or dispatch. The system is characterized by long delays. Convictions and, thereby sanctions, often occur months or years after the person was charged. So, the licence suspension when imposed may be remote in time and space from the behaviour that is being punished (drinking and driving). Recent procedures have been introduced to address this problem.

Impact of Evidence Regarding Licence Suspension

Research findings such as those reviewed above led the U.S. Presidential Commission on Drunk Driving (1983) to recommend that all states enact legislation to suspend the licence of drivers charged with driving under the influence (DUI) and they led the National Highway Traffic Safety Administration of the U.S. Department of Transportation to produce a background document and guide "Reducing Highway Crashes Through Administrative Licence Revocation" (U.S. Department of Transportation, 1986) that encouraged states to adopt the procedure. In Canada, amendments to the Criminal Code of Canada in 1985 reinstated prohibition from operating a vehicle as a court-ordered mandatory consequence of conviction for an impaired driving offence. Subsequently, the provinces/territories amended their Highway Traffic Act (or its equivalent) to provide for licence suspension, revocation, or cancellation upon notice of conviction under the Criminal Code. These practices are described in more detail below.

Canadian Practices

Provisions for Driving Prohibition in the Criminal Code of Canada.

As indicated previously, amendments to the Criminal Code of Canada in 1985 reinstated prohibition from operating a motor vehicle as a punishment upon conviction of a drinking driving offence. For those not familiar with the provisions of the relevant sections of the Criminal Code of Canada, it is important to note that a vehicle includes any motorized device used on land, such as a snowmobile or ATV and extends to vessels and aircraft. Driving prohibition is described in Section 259 which states that when a person is convicted under Sections 253 or 254 (those sections that define impaired driving, driving with a blood alcohol concentration in excess of 80 mg percent, or refusing to provide the needed breath or blood samples),

> *...the court that sentences the offender shall, in addition to any other punishment that may be imposed for that offence, make an order prohibiting the offender from operating a motor vehicle on any street, road, highway or other public place....*

The minimum mandatory prohibitions from operating a vehicle are as follows:

- for a first offence, three months;
- for a second offence, six months; and,
- for each subsequent offence, one year.

While data are not readily available on the specific sentences imposed each year in Canada, some indication of the potential number of prohibited operators can be ascertained by examining the number of charges under sections 253 and 254. In 1988, there were approximately 120,000 such charges, so in theory, approximately 120,000 individuals were prohibited from operating a motor vehicle for at least three months.

Provisions in the Provincial Highway Traffic Acts

It is to be emphasized at the outset that the descriptions that follow are intended to represent the general practices only. The exact requirements and procedures are specified in the Highway Traffic Acts and are by no means simple and straightforward. All jurisdictions apply sanctions under the Highway Traffic Act (or its equivalent) for a motor vehicle related Criminal Code offence. Table 1 shows the minimum period of licence suspension or prohibition imposed by the Registrar/Superintendent of Motor Vehicles (or equivalent) upon notice of conviction (or sentencing) for motor vehicle related Criminal Code offences. These periods of disqualification normally run concurrently with any court-ordered driving prohibition. However, in New Brunswick, the three-month licence suspension imposed by the Registrar is in addition to the three-month court-ordered prohibition, so the minimum period of disqualification is actually six months.

The provinces generally impose a minimum period of disqualification that exceeds the minimum specified in the Criminal Code of Canada, so the provisions within the Highway Traffic Act actually overide those within the Criminal Code — the Criminal Code provisions basically become redundant on the issue of disqualification from driving. To illustrate the effect this has had, it appears that the courts do not always order what would amount to a redundant prohibition. For example, in B.C. in 1988 there were 12,644 motor vehicle related Criminal Code convictions and only 758 court-ordered driving prohibitions.

Under the Criminal Code, the minimum period of prohibition is three months for a first offence, six months for a second offence and one year for a third or subsequent offence; the periods of disqualification imposed by the provinces equal or exceed these in virtually all cases. Nevertheless, there is no uniformity across Canada. The minimum length of suspension/prohibition for a first offence varies from four months to one year; for a second offence, from nine months to five years; and for a third or subsequent offence, from nine months to five years. The choice of the length of suspension is somewhat arbitrary but not entirely capricious and appears to be guided by an attempt to balance what is felt to be too brief to have an impact and too long to encourage complete disregard for the prohibition. It is also noteworthy that, in general, the length of time selected is not inconsistent with public expectations. In a 1988 survey of public perceptions, it was found that some 67 percent of those surveyed believe that a first time conviction for impaired driving (that does not arise from an accident or result in personal injury) should carry with it a suspension of at least six months. Nevertheless, it seems reasonable that attempts should be made to standardize practices across Canada and reduce what are, in fact, substantial disparities, at least in theory (on-the-books).

Several other noteworthy differences also exist in the various practices across Canada. For example, while most jurisdictions impose a licence suspension, B.C. issues a driving prohibition. In B.C., upon notice of conviction from the court, the Motor Vehicle Branch notifies the driver that they are prohibited from driving for one year and are required to surrender their licence immediately, if it has not already been relinquished. The licence is cancelled automatically and re-application is required at the end of the period of prohibition. In Manitoba, the length of suspension is linked to the outcome of the event that gave rise to the charges. For example, the length of suspension for a first offence is six months if no accident was involved. If the charges arose from an accident, the length of the suspension is increased to one year. As well, Manitoba is the first Canadian jurisdiction to introduce a system called administrative licence suspension, a method for immediate revocation. In Saskatchewan, although a six-month suspension is imposed for a first offence, early licence reinstatement is available after three months to persons who take a prescribed educational course for drinking-driving offenders and who pay a $150 fee. This option is exercised frequently, so the number of first time offenders who actually are without a licence for the full six months is not substantial. As well for second and third (or subsequent) convictions, restricted licences are available, based on economic need and proof of sobriety. Finally, to provide some indication of the extent to which the system is used and, indirectly to provide an indication of the magnitude of the drinking-driving problem that still exists, in Ontario in 1987 there were some 30,000 mandatory licence

TABLE 1

Minimum Period of Driving Disqualification for Motor Vehicle Related Criminal Code Convictions (253,254)*

	Number of Convictions		
Jurisdiction	First	Second	Third
British Columbia	1 year	1 year	1 year
Alberta	1 year	3 years	5 years
Saskatchewan	6 months	1 year	3 years
Manitoba	6 months 1 yr. w/acc	5 years	5 years
Ontario	1 year	2 years	3 years
Quebec	1 year	2 years	3 years
New Brunswick	3 months	6 months	1 year
Nova Scotia	1 year	2 years	3 years
Prince Edward Island	6 months	1 year	2 years
Newfoundland	4 months	9 months	9 months

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* See text for further clarification

suspensions arising from Criminal Code convictions — 15,000 of these were one-year suspensions, about 9,500, two-year suspensions, and approximately 5,500 three-year suspensions. Despite these numbers, as indicated previously, one of the major concerns about such sanctions is the delay that exists between the time of infraction and the time of punishment. To address this and other practical difficulties associated with Criminal Code proceedings, some jurisdictions have moved to a more swift and easy to administer system.

Roadside Suspensions

Several provinces, including British Columbia, Alberta, Saskatchewan and Ontario, have provisions within the Highway Traffic Act that permit licencing action to be taken by a police officer against a driver they suspect has been drinking but whose blood alcohol concentration (BAC) does not exceed the statutory limit prescribed by the Criminal Code of Canada. Police officers can take immediate action at the roadside with persons presumed to be operating a motor vehicle after consuming alcohol (or to be impaired). Again, uniformity of practice does not exist across the country. For example, in British Columbia and Ontario, drivers with a BAC in excess of 50 mg percent, are subject to the roadside action; in Saskatchewan, the limit is 60 mg percent. In B.C., Alberta and Saskatchewan a 24-hour driving disqualification is imposed, while in Ontario a 12-hour roadside suspension is issued.

The manner in which the suspension is administered varies somewhat, but to illustrate the practice, the procedure used in B.C. is described here. In B.C. a police officer can stop a vehicle for reasonable and probable cause and, if in the process, suspects the driver has been drinking but not to levels in excess of the provisions in the Criminal Code may issue a "Notice of 24-hour Prohibition" under Section 214 of the Motor Vehicle Act. The officer makes a statement to the driver (either regarding suspicion of alcohol use or drug use) as follows: "I have reason to suspect that you are the driver of this motor vehicle and that you have consumed alcohol. I therefore request you to surrender your driver's licence to me. You are now automatically prohibited from driving a motor vehicle for the next 24 hours...." The driver is issued a copy of the "notice", which also constitutes a receipt for his or her licence, which can be claimed at a designated location. A copy of this notice is forwarded to the Superintendent of Motor Vehicles. In B.C., the efficiency of the roadside suspension is compromised by the fact that routine police patrols are not equipped with portable breath testing equipment such as the A.L.E.R.T.. Nonetheless, in 1988, there were 28,663 roadside suspensions in British Columbia. Indeed, there is evidence that when roadside suspensions are introduced in a jurisdiction, the incidence of Criminal Code charges decreases proportionately with the increase in the incidence of roadside suspensions. This is understandable when one considers that it requires about two to three hours of a police officer's time to process an impaired driver for a charge under the Criminal Code. Nationally, it has been estimated that this translates into some 250,000 police person-hours or 150 full-time officers each year. (Simpson, Beirness, Mayhew and Donelson, 1985).

Apart from the sheer efficiency of the roadside suspension system, the most important feature is its swiftness. It satisfies the deterrent principle of celerity in a manner that the driving disqualification associated with conviction under the Criminal Code cannot hope to rival in today's system. However, few evaluations of the impact of the roadside suspension have been conducted. One carefully designed study (Vingilis, Blefgen, Lei, Sykora, and Mann, 1988) was able to detect a small short-term impact of the introduction of the law on alcohol-related fatalities but concluded that any law designed to increase celerity and certainty of punishment will have little deterrent effect without enforcement and publicity of the new laws.

Special Case of Administrative Licence Suspension

As indicated above, the traditional method of taking licence action or prohibiting driving has been to impose the sanction after the driver is convicted of an impaired driving offence. Months and years often elapse from the time of the offence until conviction and, therefore, suspension. To overcome this delay, a procedure known variously as administrative suspension, administrative revocation, or administrative per se has been vigorously pursued in the United States. Administrative suspension typically requires the arresting police officer to seize the licence of a driver who either refuses a test for alcohol or who fails the test. The officer issues a receipt for the licence and sends it to the Motor Vehicle Department. The receipt serves as a temporary licence for a period of time to permit the individual to make necessary arrangements for operating without a licence.

As of September 1, 1988, 24 states in the United States had enacted administrative suspension legislation. In Canada, only the province of Manitoba has introduced administrative licence suspension although several jurisdictions are currently considering it. In Manitoba, the system for administrative licence suspension follows the general practice in the United States. The law in Manitoba imposes an automatic 90-day suspension for drivers who are found to have a BAC in excess of 80 mg percent or refuse to comply with the demand for a breath sample. This three-month suspension is applied independent of the minimum three-month court ordered prohibition from driving that is inherent in the Criminal Code conviction. Immediately after failure or refusal of a breath-test, the police officer will confiscate the driver's licence and serve both notice and order of suspension, effective seven days after the incident occurs. A seven-day temporary licence is issued. While offenders cannot appeal the three-month court ordered prohibition imposed as part of the Criminal Code sanctions, they can appeal the administrative licence suspension, under special circumstances. If the appeal is granted, offenders must attend an Impaired Drivers Program for assessment and follow any other program requirements before a temporary licence can be issued. In fact, all first-time and repeat offenders must eventually participate in the program as a condition of licence reinstatement. A recent pilot study conducted by the Alcoholism Foundation of Manitoba provided some interesting insights into the response of persons subjected to administrative per se (see IMPACT, Volume 1, December 1989 for a summary). While they found that many individuals took advantage of the opportunity for early licence reinstatement by attending the IDP, they estimate that if current trends continue, at least 1,200 offenders each year will not come for their assessment. Offenders who have not had their licence reinstated six months after their licence suspension expires may have given up driving altogether. However, the authors of the study suspect that many continue to drive without a licence. Once this behavioural pattern is established, it is unlikely a suspended driver will change it. They regard this large group of suspended drivers as a societal and regulatory problem that needs to be addressed.

Summary

- There is considerable evidence from studies in the U.S. that licence suspension is an effective drinking-driving countermeasure. It is also clear that very little, if any, attempt has been made to evaluate the effectiveness of the practice in Canada. This is unfortunate, not just because evidence of its effectiveness is necessary to defend the practice, but because evidence is needed regarding who benefits most from the procedure and under what circumstances.

- In this context, a better sense of an optimum length of suspension may be achieved from a thorough evaluation and this could assist in establishing uniformity of practices across the country — something that is decidedly lacking at this point in time.

- There is evidence that celerity (swiftness) is important in determining the impact of a punitive measure. This feature is missing when licence suspension is tied to the sentence arising from Criminal Code convictions because of the long delays between charge and conviction. Two practices overcome this problem: roadside suspensions and administrative per se. The latter is very new to Canada and, hopefully, a careful evaluation of its effectiveness is included in the implementation of this practice in Manitoba, so that others can benefit from the experience. With respect to the former - roadside suspensions - little in the way of evaluation has been carried out. This remains a need.

Briefly, licence suspension appears to offer an effective drinking-driving countermeasure. Indeed, an expert panel examining future directions for drinking and driving countermeasures recently concluded that the Highway Traffic Act is,

> *...a tool that offered much promise, primarily because it is linked directly to driver licencing and because licence revocation has been demonstrated to be one of the most effective means for controlling drinking-driving. It was recommended that provisions for administrative revocation of licences be explored to the fullest extent. (Simpson and Donelson, 1989, p.6).*

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References

Blomberg, R.D., Preusser, D.F. and Ulmer, R.G. (1987). Deterrent Effects of Mandatory Suspension for DWI Conviction. Technical Report DOT-HS-807-138. Springfield Virginia: National Technical Information Service.

Beirness, D.J., Haas, G.C., Walsh, P.J. and Donelson, A.C. (1985). Alcohol and Fatal Road Accidents in Canada: A Statistical Look at its Magnitude and Persistence. Impaired Driving Report No. 3. Ottawa, Ontario: The Department of Justice, Canada.

Donelson, A.C. (1985a). Alcohol and Road Accidents in Canada: Issues Related to Future Strategies and Priorities. Impaired Driving Report No. 4. Ottawa, Ontario: The Department of Justice Canada.

Donelson, A.C. (1985b). Alcohol and Road Accidents in Canada: Issues Related to Future Strategies and Priorities. Synopsis. Impaired Driving Report No. 5. Ottawa, Ontario: The Department of Justice Canada.

Donelson, A.C. and Beirness, D.J. (1985). Legislative Issues Related to Drinking and Driving. Impaired Driving Report No. 2. Ottawa, Ontario: The Department of Justice, Canada

Donelson, A.C., Beirness, D.J., and Mayhew, D.R. (1985). Characteristics of Drinking Drivers. Impaired Driving Report No. 1. Ottawa, Ontario: The Department of Justice Canada.

Hagen, R.E. (1977). Effectiveness of Licence Suspension for Drivers Convicted of Multiple Driving-under-the-influence Offences. Report No. 59. Sacramento, California: California Department of Motor Vehicles.

Hagen, R.E., McConnell, E.J., and Williams, R.L. (1980). Suspension and Revocation Effects on the DUI Offender. Report No. 75. Sacramento, California: California Department of Motor Vehicles.

Hagen, R.E., Williams, R.L., McConnell, E.J., and Fleming, C.W. (1978). An Evaluation of Alcohol Abuse Treatment as a Alternative to Driver's Licence Suspension or Revocation. Report No. 68. Sacramento, California: California Department of Motor Vehicles.

Hebert, F.T., Feimer, S.H., and Tharp, P.A. (1984). Study of the Effects of Administrative Per Se Implementation in Oklahoma. National Highway Traffic Safety Administration. Springfield, VA: National Technical Information Service.

Homel, R. (1980). Penalties and the Drink/Driver. New South Wales, Australia: Department of the Attorney General of Justice.

Johns, T.R. and Pascarella, E.A. (1971). An Assessment of the Limited Licence Amendment to the North Carolina Statutes Relating to Drunk Driving. Chapel Hill, N.C.: University of North Carolina Highway Safety Research Center.

Mann, R.E., Vingilis, E.R., Gavin, D., Adlaf, E. and Anglin, L. (1989). Sentence Severity and the Drinking Driver: Relationships with Traffic Outcomes. Toronto, Ontario: Addiction Research Foundation.

Meyers, A.R., Heeren, T., and Hingson, R. (1989). Discretionary Leniency in Police Enforcement of Laws Against Drinking and Driving: Two Examples from the State of Maine, USA. Journal of Criminal Justice, 17, 179-186.

National Highway Traffic Safety Administration (1986). Reducing Highway Crashes Through Administrative Licence Revocation. Washington: Department of Transportation.

Peck, R.C., Sadler, D.D. and Perrine, M.W. The Comparative Effectiveness of Alcohol Rehabilitation and Licensing Control Actions for Drunk Driving Offenders: A Critical Review of the Literature. Alcohol, Drugs, and Driving, 1, 15-39.

Peck, R.C. (1987). An Evaluation of the California Drunk Driving Countermeasure System — An Overview of Study Findings and Policy Implications. Sacramento, California: California Department of Motor Vehicles.

Ross, H.L. (1984). Deterring the Drinking Driver. Toronto: D.C. Heath and Company.

Ross, H.L., and Foley, J.P. (1987). Judicial Disobedience of the Mandate to Imprison Drunken Drivers. Law & Society, 21, 315-323.

Ross, H.L. (1988). Police Discretion: A Limit on the Power of Law and Law Makers. In Proceedings of the 35th International Congress on Alcohol and Drug Dependence Section on Alcohol, Drugs and Traffic Safety, Volume II. Oslo.

Ross, H.L. and Voas, R.B. (1989). The New Philadelphia Story: The Effects of Severe Penalties for Drunk Driving. Washington: AAA Foundation for Traffic Safety.

Ross, H.L. and Gonzales, P. (1988). Effects of License Revocation on Drunk-Driving Offenders. Accident Analysis and Prevention, 20, 379-391.

Sadler, D.D. and Perrine, M.W. (1984). An Evaluation of the California Drunk Driving Countermeasure System: Volume 2. The Long-term Traffic Safety Impact of a Pilot Alcohol Abuse Treatment as an Alternative to License Suspensions. Report # 90. Sacramento, California: California Department of Motor Vehicles.

Simpson, H.M., Beirness, D.J., Mayhew, D.R. and Donelson, A.C. (1985). Alcohol-specific Controls: Implications for Safety. Ottawa, Ontario: Traffic Injury Research Foundation of Canada.

Traffic Injury Research Foundation of Canada (1986). Impaired-driving Legislation: Comparisons Among Countries. Ottawa, Ontario: The Department of Justice, Canada.

U.S. Department of Transportation (1983). DWI Sanctions: The Law and the Practice. National Highway Traffic Safety Administration Technical Report no. DOT-HS-806-417. Springfield, VA: National Technical Information Service.

U.S. Department of Transportation (1986). The Drunk Driver and Jail: Alternatives to Jail, Volume 2. National Highway Traffic Safety Administration Technical Report no. DOT-HS-806-762. Springfield, VA: National Technical Information Service.

Vingilis, E., Blefgen, H., Lei, H., Sykora, K., and Mann, R. (1988). An Evaluation of the Deterrent Impact of Ontario's 12-hour Licence Suspension Law. Accident Analysis and Prevention, 20, 9-17.

Williams, R.L., Hagen, R.E., and McConnell, E.J. (1984). A Survey of Suspension and Revocation Effects on the Drinking-driving Offender. Accident Analysis and Prevention, 16, 339-350.

DRIVER LICENCE SUSPENSION PROGRAMS IN ALBERTA

Hans Helder

Mr. Helder is Director of the Management Services Branch of the Motor Vehicles Division of the Department of the Alberta Solicitor General.

Impaired driving is a generic term, common throughout Canada, for a variety of drinking and driving offences (i.e., impaired; refuse to blow; over .08; over .08 causing death/bodily harm). Placing impaired driving into an appropriate or understandable context can, however, be difficult. Impaired driving is a criminal offence, set out in various sections of the Criminal Code of Canada, which is a federal statute. The Criminal Code sets out penalties for convicted impaired drivers which include fines, imprisonment, and mandatory driving prohibitions. These penalties vary in terms of minimums and maximums, depending on whether the person is a first, second, or third time offender, which in itself is a variable dependent upon procedural criteria.

Driver licencing is, however, a provincial responsibility, as is the suspension or revocation of the driving privilege. In Alberta the operative legislation is the Motor Vehicle Administration Act. Once a person is convicted of an impaired driving offence under the Criminal Code, the licence suspension provisions of the provincial statute take effect.

Contrary to the Criminal Code penalty provisions, the suspension terms are fixed in the provincial statute and are administratively applied irrespective of the driving prohibition ordered by the Court.

To illustrate the complexity of the process, let me provide you with an example:

> *A 30 year old male is charged with his third impaired driving offence in five years. Let's assume that he expedites the process and enters a guilty plea. He is a third offender, right? Third offenders automatically get a minimum 90 day sentence and a one year driving prohibition, right? Not necessarily! To legally be a third offender, the person must be served with notice that he or she will be proceeded with as a repeat offender. Chances are that if the 30 year old male in our example obtained his first and second convictions in the first two years of the five year period, he will be dealt with as a first offender. No jail, just a fine and probably a one year driving prohibition. However, a week or so later, the offender receives in the mail from MVD a notice of licence suspension stating that his licence is suspended for five years, since under the provincial statute the offender is a third offender.*

This is a relatively simple example of the way in which drinking and driving laws confuse the public, the offender, legislators and people working in the area of impaired driving.

In the 1988 spring session of the legislature, Alberta introduced and passed a set of tough new legislative initiatives to deal with the impaired driving problem. The key components of the legislation were the following:

- Significant increases in driver licence suspension periods as follows:

• first offence	1 year
• second offence	3 years
• third offence	5 years
• bodily harm/death	5 years

- A new offence for allowing someone known to be suspended to drive;
- Enabling authority to seize/immobilize the vehicle of a person charged with impaired driving for a 24 hour period. This has become the "Denver Boot" provision;
- Enabling authority for judges to order the seizure, immobilization or deregistration of certain second/subsequent suspended driving offender's vehicles for the length of their licence suspension;
- Enabling authority to require the installation of an ignition interlock device as a condition of licence reinstatement;-
- Fines for driving without insurance in keeping with the insurance premium being avoided, with a minimum of $600 and a maximum of $2,500.

The word 'enabling' is used advisedly in this context since experience to date has shown that the legislative mandate does not necessarily lead to direct action. It must be actively and aggressively marketed to those responsible for carrying out this mandate.

It is no accident that so many jurisdictions want to "get tough" on drinking and driving now and have been getting tougher in the past few years. The historical trend in Alberta, in the rest of Canada, and in many other jurisdictions has been a steady decline in the incidence of drinking and driving. The number of persons charged in Alberta has declined from 24,907 in 1984 to 18,103 in 1988, a reduction of 27 percent. Alcohol consumption has declined from 876 bottles of beer per capita or equivalent in 1981 to 724 bottles in 1988, a decrease of 17 percent. This indicates that, in large measure, legislative and program initiatives which are mandated to reduce impaired driving are following a shift in public attitude. Similar to what has happened with smoking, drinking and driving is becoming more and more socially unacceptable. This climate has made possible the passage of legislation and implementation of licencing programs which would have been impossible in the 1960's, improbable in the 1970's and unlikely in the early 1980's. Rather than creating the downward trend, "get tough" legislative and program initiatives sustain and accelerate it.

Turning more specifically to this paper's topic of restricting/eliminating the driving privileges of impaired drivers, the question becomes one of what is done with them once their driving privileges have been suspended. Licence suspension is at once an admission of failure of educational programs and programs designed to have a deterrent effect, and an opportunity to provide rehabilitative programs for offenders.

I have spoken of "getting tough" - Alberta went so far as to distribute a brochure entitled *Alberta Gets Tough on Impaired Driving* to virtually every household in the province - but laws can be tough in their consequence only as long as the offender perceives that there is a very real probability of apprehension should he or she drive while under suspension.

In Alberta, a key element in creating both the reality and perception of apprehension, is utilizing electronic information systems to their utmost capability. Through an electronic interface between the Alberta Courts' computer systems and the MVD computer system, we are able to identify any suspended driver who is convicted of a driving offence while under suspension. This information is turned over to the appropriate police agencies who then proceed with charges of driving under suspension. Over 1,500 cases have been successfully prosecuted in this way in the past two years.

Alberta has also operated several "Target Policing" pilot projects on suspended drivers. This consisted initially of establishing a profile of high-risk suspended drivers, programming the computer system accordingly and providing police with the names, addresses, vehicles, physical descriptions and other pertinent details for a specific, geographic area. While the target policing programs clearly increased the probability of apprehension, they were found to be too manpower intensive to be cost-effective. I expect, however, that we will continue to experiment with our data files until a workable model is developed. In addition, police have 24 hour, seven day direct access to MVD electronic files through an electronic interface with CPIC, and through MVD terminals in police communications centers. With the development of on-board computers for police vehicles, avenues of providing direct access to MVD information from patrol cars is under active review.

Earlier I made the comment that licence suspension creates opportunities to introduce offenders to rehabilitative programs. The very notion of licence suspension presumes that at some time in the future, the suspended driver will have his or her licence reinstated. It would, in my view, be highly irresponsible not to provide educational, evaluation and treament programs for impaired drivers during their period of suspension. In Alberta, all first time offenders are required to attend an eight hour information series entitled *Planning Ahead* prior to reinstatement; second offenders are required to attend a 30 hour information and assessment program entitled *Impact;* and third and subsequent offenders are required to appear before the Driver Control Board for a hearing to determine their fitness to drive. The Board has the authority to continue the suspension indefinitely, to add further conditions, direct treatment or, among other things, require an ignition interlock device as a condition of licence reinstatement. Prior to re-licencing, all convicted impaired drivers are given, and must pass, a road test.

As a final comment, many drinking and driving countermeasures reduce or circumscribe individual liberty to some extent. Accordingly, it is essential in a free and democratic society, that all such countermeasures be carefully and rigorously evaluated. Programs and initiatives should not only be seen to be "doing something" but should be shown to be "achieving something".

THE UNITED STATES

Dr. James L. Nichols

Dr. Nichols is a deputy director, with the office of Alcohol and State Programs for the National Highway Traffic Safety Administration (NHTSA)

Introduction

An estimated 20 percent of all licenced drivers drive (at least occasionally) with illegally high alcohol concentrations (Crancer 1986; Stewart 1986, Tix and Palmer 1987). These drivers are most frequently on the roadways on weekend nights between the hours of 9 p.m. and 3 a.m. (Lund and Wolfe 1989). This is also when alcohol-related fatal crashes are most likely to occur (NHTSA FARS). These alcohol-impaired drivers are infrequently arrested. On a single weekend night, for example, it is estimated that between one in 250 and one in 1000 of the DWI offenders on the road is stopped and charged with a DWI offence. Over a one-year period, more are arrested but most are not. The FBI provides an index of DWI arrests as a percentage of licenced drivers in its Uniform Crime Report. According to this report, fewer than one percent of all licenced drivers are arrested annually for DWI (FBI 1989). If, in a year's time, an estimated 20 percent of licenced operators drive while intoxicated and, during that same time period, fewer than one percent of licenced drivers are arrested for DWI, it follows that fewer than five percent (one in 20) of all "active" DWI offenders are arrested in a given year.

Because most DWI offenders are never arrested, it is not surprising that three out of four drinking drivers involved in fatal crashes (75 percent) have never been arrested for DWI (Lewis 1985) and approximately four out of five (80 percent) have never been convicted of such an offence (NHTSA FARS). It is apparent that any approach that affects only the small minority of DWI offenders who are arrested will impact a similarly small percentage of alcohol-related crashes. Therefore, programs must affect the general population of drivers, particularly DWI offenders who are not arrested, if they are to have a major impact on alcohol-related crashes.

This doesn't mean that efforts to reduce the recidivism of arrested and convicted DWI offenders, particularly repeat offenders, are not important. Individually, persons with a previous DWI conviction have a significantly higher probability of rearrest and of subsequent crash involvement than do offenders without a previous arrest (Mushill and Struckman-Johnson 1977). Because of this higher risk, they represent an unacceptable threat to the safety of the driving public which must share the road with them. Every effort should be made to reduce the DWI recidivism and subsequent crash involvement of these drivers. However, programs which affect only convicted DWI offenders cannot affect the majority of alcohol-related crashes. Conversely, programs that fail to reduce recidivism among repeat offenders should not be seen as ineffective if they reduce DWI among the many offenders who are not caught.

General Prevention Approaches

Theoretically, reductions in alcohol-impaired driving and in alcohol-related crashes could result from a number of general prevention approaches including public awareness, education, reduced incentives to drink excessively, increased server responsibility and training, and alternative transportation systems. To date, however, general deterrence has provided the most frequent evidence of impact on the "bottom-line" (i.e., alcohol-related crashes).

Public information and education are not only important but necessary components of any deterrent effort to reduce alcohol-related crashes. However, neither public information nor education have been shown to be effective in reducing crashes, in the absence of a (reasonably) deterrent environment.

The minimum drinking age laws have, in most States, provided convincing evidence that reducing the availability of alcohol among young drivers reduces their involvement in alcohol-related crashes (GAO 1987; Hoxie and Skinner 1987). However, this example of "bottom-line" impact also involves considerable overlap between availability and deterrence mechanisms. The implementation of these laws has included a host of deterrent actions aimed at young drinking drivers (e.g., enforcement, licence sanctions, etc.).

The Case for General Deterrence

To date, general deterrence has provided the primary, documented mechanism for reducing alcohol-impaired driving and alcohol-related fatal crashes. There have been a substantial number of studies which have shown that increasing the perceived risk of arrest results in reductions in alcohol-related fatal crashes (e.g., See reviews by Ross 1984; Voas and Lacey 1988; Nichols and Dickman 1989). Similarly, a significant number of studies have shown that increases in the swift and certain application of meaningful sanctions, particularly licence suspensions, also result in population-wide (usually statewide) reductions in alcohol-related fatal crashes (e.g., See review by Nichols and Ross 1988).

In the United States, the increased emphasis placed on general deterrence since 1980 has been accompanied by significant reductions in the proportion of drivers, both on the road and in fatal crashes, who have illegally high alcohol concentrations (Tix and Palmer 1987; Lund and Wolfe 1989; NHTSA FARS). One could reasonably argue that these reductions result from other factors. However, there is little disagreement that the most visible change in the anti-drunk driving movement since 1980 has been the increased emphasis placed on deterrence. This fact, combined with the results of more specific scientific evaluations of enforcement and sanction programs, provides reasonable support for the contention that deterrence has had a significant impact in terms of reducing alcohol-related fatal crashes in the United States. This impact has been maintained nationally for approximately eight years. Thus, this paper focuses on the need for general deterrence, not so much because other general prevention measures are not important but because deterrence appears to be central and critical to all efforts to reduce impaired driving.

Requirements for General Deterrence

As indicated, general deterrence is achieved primarily by two mutually supportive elements. The first (and perhaps the most important) component involves raising the perceived risk of arrest among DWI offenders and potential DWI offenders. This is accomplished by placing greater emphasis on the enforcement of drunk driving laws, combined with extensive media visibility. Most commonly, it is accomplished by high visibility enforcement activities such as roadside sobriety checkpoints and special DWI patrols (Ross 1982; Voas and Lacey 1988; Nichols and Dickman 1989). This is an important component of general deterrence. It is not the primary topic of this paper however, except as it relates to police participation in the administrative process of picking up the driver licences of those offenders who fail or refuse a breath test after being arrested for DWI.

The second component required to produce general deterrence is the imposition of swift, certain and (reasonably) severe sanctions upon those drivers who are apprehended. Like effective enforcement procedures, swift and certain sanctions must be highly visible to be maximally effective. These sanctions must be perceived by potential DWI offenders as sanctions likely to be imposed upon them if they were arrested for DWI. Many theorists and practitioners believe that swiftness and certainty are more important than severity in creating deterrence (e.g. Ross 1984; Katz and Sweeney 1984; Cleary and Rodgers 1986).

Importance of Licence Suspension as a DWI Sanction

It is essential that more emphasis be place on imposing swift and certain licence suspensions on those DWI offenders who have been caught. There are several reasons why this is so. First, licence suspensions are more effective than any other sanction in reducing population-wide alcohol-related crashes (e.g., Zador et al. 1988; Klein 1989). This is likely accomplished by creating deterrence of DWI behavior among the general population of drivers than merely by reducing the recidivism of those violators who are arrested and convicted (Nichols and Ross 1988). However, there is also clear and consistent evidence that licence suspensions are more effective than any other sanction in reducing subsequent total violations and crashes among those DWI offenders who receive them (e.g., See reviews by Peck et al. 1985 and by Nichols and Ross 1988). Thus, licence suspensions appear to be the most effective sanctions for both deterring DWI behavior and for reducing recidivism.

Another reason why license suspension is so important is that, of all DWI sanctions, licence suspension appears to be the most frequently recalled and the most feared by the general population of drivers (Rodgers and Cleary 1986; Florida State University 1987). The fact that DWI offenders frequently undertake expensive defense measures in order to retain their licence to drive suggests that this sanction is also feared by this sub-population of drivers. Finally, it should be noted that DWI is a driving offence. Therefore, it follows that a suspension of the offender's licence to drive is the most appropriate sanction that can be imposed.

Problems Associated with Current Licence Suspension Procedures

In spite of the effectiveness and appropriateness of licence suspension, studies conducted in several states suggest that fewer than half of all convicted DWI offenders ever receive a full or "hard" licence suspension which permits no driving for a prescribed period of time (e.g., Helander 1986; Gambitta et al. 1988; Maryland General Assembly 1988; Massachusetts Senate 1987). Most offenders receive either no licence sanction at all or they receive what is commonly referred to as a "hardship" licence which permits driving under restricted conditions (e.g., to and from employment). Hardship licences would not greatly damage the deterrent potential of licence sanctions if they were provided in only a small percentage of cases. However, in most States where hardship licences are permitted, they are provided to the majority of offenders. As a result, the deterrent and recidivism-reduction potential of licence sanctions is weakened as offenders come to realize that, even if they were caught, it is not likely that they would receive the penalty they fear the most.

This is particularly true in the courts where, in most States, there is a very low probability that meaningful licence suspensions will be imposed on convicted DWI offenders, even if they are arrested and convicted (Nichols and Quinlan 1988). Most courts (and some State licencing agencies) appear reluctant to impose even modest "hard" licence actions (e.g., 30-90 days), fearing that loss of employment will result from such actions. This sentiment exists regardless of the fact that loss of licence leads to loss of employment for fewer than five percent of suspended DWI drivers (Johnson 1986; Wells-Parker and Cosby 1987). But these objective research findings do not appear to move many judges. Instead, concern about the well-being of the DWI offender frequently prevails over concern about the alcohol crash problem and the consequences for those who are victimized by it.

Another problem frequently raised with regard to licence suspension is that many suspended drivers continue to drive during their suspension period (e.g., Hagen et al. 1980; Ross and Gonzales 1988). Suspended DWI offenders find it quite easy to drive while suspended (DWS) without being detected because of the relatively "invisible" nature of the DWS offence. This problem is compounded by the fact that, in many States, when suspended drivers are caught driving, they are often not charged or are not convicted of a serious offense. Obviously, there are some offenders, particularly repeat offenders, who have a blatant disregard for the law and who will drive regardless of the seriousness of the offence or the severity of sanctions which may be imposed.

Fortunately, "hard-core" repeat offenders constitute fewer than 10 percent of all DWI offenders (Struckman-Johnson 1976; Lewis 1985) and, while many of the less serious offenders also drive while suspended, studies have shown that, in spite of this fact, they have significantly fewer total violations and serious crashes than offenders whose licence has not been suspended. Although many suspended drivers continue to drive, they drive less often and more carefully, presumably because they fear the consequences of being caught (Salzberg et al. 1981; Sadler and Perrine 1984; Tashima and Peck 1986; Ross and Gonzales 1988). Thus, even under current circumstances, we should not view licence sanctions as ineffective simply because many suspended drivers continue to drive. However, greater emphasis should be placed on efforts to reduce driving among offenders whose licences have been suspended for DWI.

A Proposed Model for Maximizing General Deterrence

In order to achieve maximum general deterrence, a (reasonable) minimum "hard" suspension period must be imposed on all, or nearly all, DWI offenders. Use of the administrative system, rather than the judicial system, to impose licence suspensions increases the swiftness and certainty by which such sanctions can be imposed. This, in turn, increases their general deterrent potential. Because of the problems related to driving while suspended, however, administrative licence suspension, alone, is not adequate to provide maximum general deterrence. Progressively more severe actions should be targeted at repeat and DWS offenders to minimize their ability to drive during their periods of suspension.

For example, with second-time DWI offenders and persons apprehended for DWS (estimated to be approximately 20-30 percent of the population arrested for an alcohol-related offence), a significantly extended "hard" licence suspension (e.g., one year) should be imposed. In addition, consideration should be given to requiring confiscation of the registration and licence plates of the offender's vehicle(s) during the period of hard suspension. Confiscation of registration and licence plates would make it considerably more difficult for such offenders to drive without being detected by the police. For circumstances where the vehicle must be used by other family members, a specially marked licence plate could be issued. However, care should be taken to issue such special plates sparingly. Like hardship licences, they should not be provided to the majority of offenders. Since repeat and DWS offenders constitute only about 20-30 percent of all DWI offenders, these actions would not be required for 70-80 percent of the total number of offenders arrested. Thus, it is likely that such actions could be imposed in the majority of cases for which they were intended.

For third-time DWI offenders and second-time DWS offenders, more severe (yet reasonable) actions should be taken to prevent driving by such high risk individuals. Again, a "hard" licence revocation should be imposed for an even longer period (e.g., two to five years) and consideration should be given to disabling or impounding the offender's vehicle(s). The vehicle could be disabled on the offender's property. Fewer than 10 percent of all DWI offenders would fall into this category. This increases the likelihood that this action would be imposed in most of the cases for which it was intended.

All actions taken up to this point could be administrative actions, initiated by the arresting officer, acting as an agent of the Department of Motor Vehicles. Impoundment or confiscation actions would be based on previous entries on the offenders driving record. This would maximize the swiftness and certainty of such actions and increase their general deterrent potential. Constitutional requirements would be met by providing the offender the opportunity for a prompt hearing following the initiation of such actions.

Finally, with fourth-time DWI offenders or third-time DWS offenders, all possible actions should be taken to permanently separate such persons from their vehicles and to prevent them from driving. Vehicle confiscation should be considered at this point, along with lifetime licence revocation, as required by a strong and enforced habitual offender law. Because of the considerations involved in confiscating personal property, this step of the proposed "progressive" system must be handled by the courts. However, since fewer than five percent of all alcohol-related arrests would fall into this severe category, the courts would not be inundated with such cases and therefore could impose such penalties with a reasonable degree of certainty.

The "core" system described above would likely be most effective in impacting the behavior of first offenders and those offenders who are never caught (and who constitute about 75 percent of the drinking drivers involved in fatal crashes). It would also provide greater potential for limiting DWS among repeat offenders than do the programs currently in place in most States. Combined with highly visible enforcement, this system would create a more credible deterrent environment with minimal disruption to the courts. This is because the driving-related sanctions upon which this model program relies are administrative actions.

Experience with states with administrative licence suspension laws suggests that this type of system would relieve the courts of some of the pressures related to charge-bargaining to retain driving privileges.

Minimizing DWI Recidivism via the Courts

In addition to enhancing general deterrence, the above system would also contribute significantly to reducing the (arrest and crash) recidivism of first and repeat offenders. It would do so by creating deterrence among those specific offenders who are arrested and by reducing the opportunity for such offenders to drive (i.e., "incapacitation"). However, this system may not be optimally effective in reducing recidivism because it does not have a strong "rehabilitative" component. Here, the courts must play a strong role. In fact, the entire area of reducing recidivism and dealing with repeat offenders is best handled by the courts. Only the courts can apply the pressures necessary for meaningful diagnosis and rehabilitation to occur and to apply the additional sanctions that may be required to ensure that repeat offenders do not continue to drive.

To date, most efforts to reduce the recidivism of repeat offenders have had very little impact (Nichols 1990). However, there is some evidence that confinement in special DWI facilities, combined with assessment and treatment, can impact these more severe problem drinkers (Siegal 1985; Ben-Arie et al. 1986; LeClair 1987). Furthermore, in addition to confinement, assessment, and referral to treatment, the court has a number of additional sanctioning alternatives which may reduce recidivism. They include the imposition of substantial fines, probation, use of alcohol safety interlocks (after a period of "hard" suspension), community service, house arrest, electronic monitoring, victim restitution, victim panels and, perhaps, requiring proof of sobriety before allowing a multiple offender to be relicenced. As in the administrative system, the courts must impose these sanctions in a progressively more severe manner and apply increasing pressure upon repeat offenders to seek help and to refrain from driving until their problem with alcohol has been addressed. The courts should view the basic administrative sanctions described above as a foundation upon which to levy these additional sanctions as they deem necessary. Strong driving-while-suspended and habitual offender laws would aid judges in accomplishing this.

Reducing recidivism requires unique combinations of deterrent, incapacitating and rehabilitative efforts directed at individual offenders. In many jurisdictions, judges prefer to experiment with unique combinations of sanctions in the hope that more effective sanctioning will result. But, it is difficult to provide unique sanction combinations for a wide variety of offenders, particularly when there are so many offenders and when the courts must withstand the many pressures which are related to licence suspension. With the "core" driving-related sanctions imposed administratively, judges should have additional opportunity to try unique combinations of sanctions, without detracting from general deterrence. More importantly, judges could devote additional effort to finding effective sanctioning programs for repeat offenders who are the most difficult to reform. Nearly all of the above sanctions could be imposed in addition to administrative sanctions, thus building upon the effectiveness of these actions. Currently, "innovative" sanction combinations are most often imposed in lieu of licence and vehicle-related sanctions, thus reducing the deterrent potential of the overall sanctioning process.

Compared with the administrative system, the courts are in a better position to ensure that all DWI offenders receive a valid assessment of their drinking problem. They are in a better position to decide if a person's behavior or drinking problem warrants special treatment and, if necessary, to require confinement in a special DWI facility. The courts are in a better position to decide if an offender should be allowed to be relicenced before his or her maximum licence suspension period is completed and whether an alcohol safety interlock should be installed on the offender's vehicle to ensure no driving after drinking. Finally, the courts are in a better position to determine if a repeat offender has effectively dealt with his or her drinking problem before allowing him or her to be relicenced. Relicencing of severe problem drinkers should not be an automatic occurrence.

Summary

A "progressive" sanctioning system composed of driving-related actions and administered by the state licencing agency is capable of imposing swift, certain and meaningful sanctions. To the extent that the actions of such a system would be publicized, they would be capable of deterring both arrested and undetected DWI offenders. Such a system would relieve some of the current problems associated with court backlogs, not-guilty pleas and charge-bargaining. The courts could enhance this deterrence-oriented system and concentrate more on reducing the recidivism of convicted offenders by imposing additional sanctions. Working together, the administrative and judicial systems could provide a much more effective deterrent environment than currently exists while, at the same time, facilitating rehabilitation and other recidivism reducing mechanisms.

References

Ben-Arie, O., Swartz, J. and George, G. (1986) The Compulsory Treatment of Alcoholic Drunken Drivers Referred by the Courts: A 7 to 9 Years' Outcome Study. The Journal of Law and Psychiatry.

Blomberg, R., Preusser, D. and Ulmer, R. (1987) Deterrent Effects of Mandatory Licence Suspension for DWI Convictions. National Highway Traffic Safety Admin., DOT HS 807 138, Washington, DC.

Crancer, A. (1986) The Myth of the Social Drinker-DUI Driver. Paper presented at the Joint Meeting of the American Medical Society on Alcoholism and Other Drug Dependencies, April 18-22, 1986, San Francisco, CA.

Federal Bureau of Investigation (1988) Crime in the United States: Uniform Crime Reports. Washington, DC

Florida State University (1987) An Update on Public Views Regarding Drinking and Driving: A Statewide Survey. Community Research Center, College of Communication, FL.

Gambitta, R.; Leal, R.; Hill, D.; Olson, D.; and Sunde, E. (1988) The Bexar County Comprehensive Anti-DWI Study. Texas Department of Transportation, Austin, TX.

Government Accounting Office (1987) Drinking-Age Laws; An Evaluation Synthesis of Their Impact on Highway Safety. Washington, DC.

Hagen, R. (1977) Effectiveness of Licence Suspension for Drivers Convicted of Multiple DUI Influence Offences. Report #59, Department of Motor Vehicles, Sacramento, CA.

Hagen, R., McConnell, E. and Williams, R.L. (1980) Suspension and Revocation Effects on the DUI Offender. Report No. 75, Dept of Motor Vehicles, Sacramento, CA.

Helander, C.J. (1986) The California DUI Countermeasure System: An Evaluation of System Processing and Deficiencies. California Department of Motor Vehicles, Sacramento, CA.

Hoxie, P. and Skinner, D. (1987) A Statistical Analysis of the Effects of a Uniform Minimum Drinking Age. National Highway Traffic Safety Administration, DOT-HS-807-082, Washington, DC.

Johnson, D.M. (1986) The Effect of Administrative Licence Revocation on Employment. National Highway Traffic Safety Administration, Office of Alcohol and State Programs, Washington, DC.

Klein, T. (1989) Changes in Alcohol-Involved Fatal Crashes Associated with Tougher State Alcohol Legislation. Contract DTNH22-88-C-07045, National Highway Traffic Safety Administration, Washington, DC.

LeClair, D. (1987) Use of Prison Confinement for the Treatment of Multiple Drunk Driver Offenders: An Evaluation of the Longwood Treatment Center. From Executive Summary. Division of Research, Massachusetts Department of Corrections, Boston, MA.

Lewis, R. (1985) Estimates of DWI Recidivism in Minnesota Fatal Crashes. Minnesota Criminal Justice System Task Force, St. Paul, MN.

Maryland General Assembly (1988) Report of the Task Force on Drunk and Drugged Driving. Department of Legislative Reference, Annapolis, MD.

Massachusetts Senate (1987) Current Drunk Driving Deterrence: A Cause for Cautious Optimism. Committee on Post-Audit and Oversight, Boston, MA.

Mushill, E., Olshan, M. and Struckman-Johnson, D. (1978) Review of ASAP Diagnosis, Referral and Rehabilitation Efforts: 1972- 1976. National Highway Traffic Safety Admin., Washington, DC.

National Highway Traffic Safety Administration (1989) Alcohol Involvement in Fatal Traffic Crashes 1988. DOT HS 807 448, National Center for Statistics and Analysis, Washington, DC.

Nichols, J. and Ross, L. (1988) The Effectiveness of Legal Sanctions in Dealing with Drinking Drivers. In Surgeon General's Workshop On Drunk Driving: Background Papers. U.S. Department of Health and Human Services, Washington, DC.

Nichols, J. and Dickman, F. (1989) "Effectiveness of Roadside Sobriety Checkpoint Operations". National Highway Traffic Safety Administration, Washington, DC.

Nichols, J.L. (1990) Deterrence versus Treatment. (in press) National Highway Traffic Safety Admnistration, Office of Alcohol and State Programs, Washington, DC.

Peck, R., Sadler, D. and Perrine, M. (1985) The Comparative Effectiveness of Alcohol Rehabilitation and Licencing Control Actions for Drunk Driving Offenders: A review of the literature, Alcohol, Drugs and Driving: Abstracts and Reviews. 1(14), 15-39.

Rodgers, A. and Cleary, J. (1983) Analysis of the Effect of Recent Changes in Minnesota's DWI Laws: The Perception of Minnesota's Drivers. House of Representatives, Research Department, St. Paul, MN.

Ross, L. H. (1984) Deterring the Drinking Driver: Legal Policy and Social Control. Lexington Books, Lexington, MA.

Ross, L. H. (1988) Deterrence-based policies in Britain, Canada and Australia. In Lawrence, Snortum and Zimring (eds.) Social Control of the Drinking Driver, University of Chicago Press, Chicago, IL.

Sadler, D. and Perrine, M. (1984) An Evaluation of the California Drunk Driving Countermeasure System: Volume 2, The Long-Term Traffic Safety Impact of a Pilot Alcohol Abuse Treatment as an Alternative to License Suspensions. Report No. 90, Department of Motor Vehicles, Sacramento, CA.

Salzberg, R., Hauser R. and Klingberg, C. (1981) License Revocation and Alcohol Treatment Programs for Habitual Traffic Offenders. Report No. 49, Research and Technology Division, Dept of Licensing, Olympia, WA.

Siegal, H. (1985) Impact of Driver Intervention Program on DWI Recidivism and Problem Drinking. Final Report on Contract No. DTNH 22-83-C-05150, National Highway Traffic Safety Administration, Washington, DC.

Stewart, J. (1986) How Many Drinking Drivers Are There? In Proceedings of the 30th Annual Meeting of the American Association for Automotive Medicine, Montreal, Canada, 33-43.

Stewart, K., Gruenewald, P. and Roth, T. (1989) An Evaluation of Administrative Per Se Laws. Pacific Institute for Research, Grant No. 86-IJ-CX-0081, National Institute of Justice, Washington, DC.

Struckman-Johnson, D. and Mushill E. (1976) Program Level Evaluation of ASAP Diagnosis, Referral and Rehabilitation Efforts: Volume II - Analysis of ASAP Diagnosis and Referral Activity. DOT HS-802 043, National Highway Traffic Safety Administration, Washington, DC.

Tashima, H. and Peck, R. (1986) An Evaluation of the California Drunk Driving Countermeasure System: Volume 3, An Evaluation of the Specific Deterrent Effects of Alternative Sanctions for First and Repeat DUI Offenders. Dept of Motor Vehicles, Sacramento, CA.

Tix, P. and Palmer, J. (1987) Minnesota Alcohol Roadside Survey: Summary of Reports. Department of Public Safety, St. Paul, MN.

Voas, R. and Lacey, J. (1988) Issues in the Enforcement of Impaired Driving Laws in the United States. In Surgeon General's Workshop On Drunk Driving: Background Papers. U.S. Department of Health and Human Services, Washington, DC.

Wells-Parker, E. and Cosby, P.J. (1987) Impact of Driver's Licence Suspension on Employment Stability of Drunken Drivers. Mississippi State University, Social Science Research Center, MS.

Zador, P., Lund, A., Fields, M. and Weinberg, K. (1988) Fatal Crash Involvement and Laws Against Alcohol-Impaired Driving. Insurance Institute For Highway Safety, Washington, DC.

RANDOM BREATH TESTING: ENFORCEMENT THAT SAVES LIVES

AUSTRALIA

Dr. Ross Homel

Dr. Homel is Associate Professor at the School of Behavioral Sciences at Macquarie University, N.S.W. Australia

In Australia, there are two major forms of random breath testing (RBT): stationary and mobile. Mobile RBT, a recent development, has been permitted since March 1987 in Victoria and since November 1987 in New South Wales. In New South Wales, where the police maintain regular statistical breakdowns, stationary RBT accounts for nearly 90 percent of all random tests (NSW Police Department, 1990).

Stationary RBT, which operates in all states and territories of Australia, is performed at arbitrarily selected, highly visible checkpoints - often on main roads - that are varied from day to day and from week to week. The checkpoints are not announced publicly.

Motorists passing a checkpoint who are pulled over for preliminary roadside breath tests are selected in a haphazard fashion, and in most jurisdictions all drivers who are pulled over are asked to take a test, regardless of the type of vehicle they are driving or their manner of driving. (In Western Australia and Queensland, only about half the drivers pulled over are tested.) No attempt is made to detect symptoms of alcohol use through observation, as is the practice in sobriety checkpoints in the United States after a driver has been pulled over. Once a driver is pulled over, no record checks are run (although in some jurisdictions licences are sometimes checked), and no equipment checks are conducted.

Drivers returning a negative breath test result are not detained and usually drive away after a delay of less than one minute (the delay in states such as Western Australia where RBT has been recently introduced is often greater than this). Drivers who test positive during a preliminary screening (generally about 0.5 percent of all those tested) are detained for a more detailed breath analysis which provides a reading that can be tendered as evidence in court. A reading of 50 mg percent is the "prescribed concentration of alcohol" in most parts of Australia; i.e., the level prescribed in the legislation beyond the legal limit.

Under mobile RBT legislation operating in NSW and Victoria, police are authorized to pull over any motorist at any time, regardless of the motorist's manner of driving and regardless of whether an offence or a collision has occurred. Once a motorist is pulled over, mobile RBT operates in the same way as stationary RBT. The major differences between the two forms of RBT are that mobile RBT is much less visible to other motorists, and results in many more positive tests than stationary RBT (about four percent of mobile random tests are positive). The higher "hit" rate under mobile RBT is because police to some extent target intoxicated drivers, particularly those using back roads in an attempt to avoid stationary RBT. Thus mobile RBT is even less "random" than stationary RBT, and on its own is almost certainly a less potent deterrent than stationary RBT (Homel, in press(a)).

As an enforcement tool, RBT stands in marked contrast to roadblocks or random stopping programs, which prior to 1989 were used in the states of Queensland and Western Australia. The critical difference is that in roadblocks only motorists who are judged by police to have been drinking are asked to take a breath test, and this appears to be a very small percentage of all those pulled over. For example, in Queensland, even during a period of intensified enforcement, fewer than one driver in one hundred who was pulled over, ostensibly for a licence and equipment check, was subjected to a roadside breath test (QLD Transport Policy Planning Unit, 1987). This kind of proportion probably applies to most other roadblock and sobriety checkpoint programs.

At the psychological level this exercise of police discretion in roadblocks will almost certainly undermine their purpose, at least in the long term, since a major argument for RBT is that motorists know they can be tested even if they believe they are very good at concealing the fact that they have been drinking. The model of general deterrence which I have developed and tested (Homel, 1988) suggests that a large number of drivers, particularly men, play "breathalyzer roulette", and that unless the legal threat is potent and credible, many drivers will take the risk and drive over 50 mg percent. Consequently, any method of enforcement which relies on subjective judgments of impairment, or possibly even on passive detection techniques, is unlikely to work in the long term, simply because the perceived probability of apprehension cannot be maintained at a sufficiently high level.

Given the evidence presented in my earlier paper (Drinking and Driving Countermeasures in Australia), as well as other evidence reported by Homel (1988) and Homel, Carseldine and Kearns (1988), there is not much doubt that RBT as implemented in NSW had a remarkable effect on drinking and driving, with an approximate 20 percent decline in overall fatalities and a 36 percent decline in alcohol-related fatalities and serious injuries which has been sustained for seven years. The purpose of this paper is to examine the reasons for the success of RBT in NSW, and to assess the performance of similar laws in other parts of Australia. Contrary to what one might expect, RBT has not been uniformly successful across Australia, suggesting that it is not a "magic bullet" which can be fired at the drinking and driving problem, irrespective of local customs, police organization, or community attitudes. Some general principles for a successful RBT program are deduced from the experiences of the states and territories, and reported towards the end of this paper.

RBT "Boots and All": Successful Deterrence in New South Wales

NSW and Tasmania introduced RBT almost simultaneously and adopted a similar approach from the beginning (Table 1). The distinctive elements of this approach are:

- At least one random test for every three licenced drivers each year, resulting in high levels of exposure to RBT;
- Extensive formal or informal publicity focused specifically on RBT;

- RBT is not only highly visible, it is hard to predict where it will be operating and it is hard to evade once it is in sight, thus increasing the perceived probability of apprehension for drinking and driving; and
- The enforcement and focused publicity are maintained at high levels permanently, with provision for special additional local or seasonal campaigns.

Table 1. An Overview of Random Breath Testing and Random Stopping in Australian States and Territories

Jurisdiction	Date of Introduction	Initial Enforcement Approach	Recent Developments	Impact
Gradual Intensification of RBT				
Victoria	July 1976	Low level enforcement of RBT, supplemented by short-term blitzes	Increase in overall testing rate after 1983, but not all RBT. Mobile RBT since March 1987. Increase in RBT December 1989	Clear short-term impact of blitzes, overall impact unclear
South Australia	October 1981	Low level RBT enforcement, preceded by press controversy	Intensified RBT, since Easter 1987, more publicity, back streets patrols	Slight initial temporary effect. Big effect after Easter 1987, return to pre-1987 levels by Easter 1989.
The Territories: A Low Level of Enforcement				
Northern Territory	February 1980	Low level enforcement of RBT	Not known	Public support, but impact on crashes not known
Australian Capital Territory	December 1982	Low level enforcement of RBT	No major developments	Initial impact on casualties
RBT Boots and All				
New South Wales	December 1982	Intensive publicity, highly visible and intensive RBT enforcement	Publicity and enforcement levels maintained. Mobile RBT since Nov. 1987	Immediate and permanent decline in alcohol-related casualties
Tasmania	January 1983	Very intensive RBT, extensive informal publicity	Intense enforcement maintained	Apparently permanent decline in alcohol-related casualties

Table 1 (continued)

RBT After Some Years of Random Stopping Programs				
Western Australia	November 1980	Roadblocks with testing of detected drink-drivers-regular blitzes	RBT replaced roadblocks, October 1988. Limited publicity and uneven enforcement of RBT	Temporary effect of intensive roadblocks. Some effect of RBT in country in first year, not in Perth
Queensland	August 1986	RID (Reduce Impaired Driving) roadblocks with testing of detected drink-drivers, plus publicity	Decline in RID publicity, possible decline in level of enforcement. RID replaced by RBT Dec. 1, 1988	Marked temporary impact of RID. Impact of RBT in first year, probably temporary

To boost enforcement, when RBT was introduced in NSW, about 200 extra police were recruited for highway patrol work. In the first 12 months of RBT (December 17, 1982 to December 31, 1983), 923,272 preliminary breath tests were conducted, representing approximately one test for every three licenced drivers (Cashmore, 1985). From December 17, 1982, to December 31, 1989, 8,700,245 random tests were conducted, an average of nearly one and one quarter million per annum (NSW Police Department, 1990).

Strategies of enforcement have changed over time. Initially RBT was carried out using special vans and converted buses, but breakdowns and limitations in flexibility led, within 12 months, to the rule that each highway patrol vehicle should carry out one hour of RBT per shift. Following the work of Cashmore (1985), testing was intensified in the early hours of the morning to counter the trend of inebriated drivers to delay their trip home. In 1987, "mobile RBT patrols" were introduced to complement the work of the stationary test sites. The purpose of these patrols was to police side roads within four kilometers of the main testing site, in order to deter motorists from attempting to evade RBT. Since 1988 and in response to police pressure to allow "random" testing which yielded a higher "hit rate" and reduced police boredom, mobile RBT patrols have been freed from restrictions, and may essentially "roam free", although the great bulk of random testing is still conducted from highly visible stationary vehicles. Because it is less visible, mobile testing potentially poses a threat to the long term effectiveness of RBT in NSW, although recent data suggests that, despite these misgivings, the deterrent impact has been positive (Sgt. Merv Lane, Private Communication, August 1989).

Most of these measures have been supported by professional media publicity, as well as by extensive coverage over the years in news media (Cashmore, 1985). The initial publicity campaign had as its theme: "How will you go when you sit for the test, will you be under .05 or under arrest?" Television publicity depicted police carrying out RBT in a friendly and efficient manner, but also carried the message that RBT could not be avoided by such methods as turning onto side roads (a "real nightmare" for drinking drivers, as one of the advertisements put it). No attempt was made to emphasize the penalties; the whole emphasis was on the threat of arrest and on the humiliation entailed for someone who "failed the test". This focus on the operations of RBT, and on the threat of arrest for drinking drivers, has on the whole been maintained, despite some decline in overall publicity support for RBT (Span, 1989).

The proportion of motorists who have been breath tested has increased steadily, from about 25 percent prior to RBT to 64 percent in April 1989, with 12 percent of motorists having been breath tested five or more times. Although about a third of motorists have never been breath tested, by April 1989, 88 percent reported that they had seen RBT in operation in the last six months (Sgt. Merv Lane, Private Communication, August 1989). Moreover, those actually tested undoubtedly drive more often at night when RBT is more likely to be operating, and are therefore the population most at risk of drinking and driving (McLean et al., 1984).

The deterrent impact of RBT, suggested by the exposure rates and the decline in traffic accidents, is supported by other data from the five waves of survey data collected by the NSW Traffic Authority, most recently in April 1989 (Homel, Carseldine & Kearns, 1988; Sgt. Merv Lane, private communication, August 1989). Self-reports of drinking before driving declined, with the proportions admitting to driving at least once a month over their own self-assessed safe BAC limit dropping from 16 percent in 1982 to only six percent in 1984. Corresponding to these declines in self-reported drinking and driving, between 1982 and 1989 there was a steady trend for drinkers to rely more on counting drinks than on checking their feelings and coordination, an increase in the numbers making prior arrangements not to drive home after a celebration, an increase in the perceived probability of apprehension for drinking and driving, and a decline in the proportion of respondents who believed they could do something to avoid RBT. All the survey indicators are consistent with the contention that the decline in alcohol-related casualties is due largely to RBT.

The Process of General Deterrence and the Impact of RBT on the Social Environment in NSW

Analysis of survey data by Homel (1988) supported the thesis that RBT had an initial deterrent impact of considerable magnitude, since there were relationships (in the expected directions) between levels of actual police testing, exposure of the target population to RBT, perceived certainty of arrest, and steps taken to avoid drinking and driving. In other words, the causal chain at the heart of the deterrence process was supported by the analysis.

However, longitudinal data (based on interviews with 185 motorists, six weeks apart) demonstrated that the deterrence process was very unstable. Direct exposure to RBT through being tested or through driving past an RBT station resulted in an increase in use of strategies to avoid drinking and driving (such as leaving the car at home or getting a sober companion to drive), but a lack of exposure to RBT, strong peer pressure to drink in a group situation, or successful drinking and driving episodes (the experiential effect), correlated with declines in measures taken to avoid drinking and driving.

A most important aspect of the analysis was the finding that 40 percent of respondents claimed that RBT made it easier to resist pressure to drink in a group situation. In fact this provision of an "exculpatory defense" (Gusfield, 1981) was as important an influence on behaviour as the direct deterrent impact of RBT. More recent survey data, collected in four Australian states in mid-1988 (Berger et al. 1989; Homel et al., 1990), suggest that RBT in NSW is continuing to exercise a strong influence on behaviour through the same indirect mechanism. In response to a question on how often respondents use police breath testing as an excuse to limit their drinking in a group situation, only 48 percent of NSW respondents answered "never", in comparison with 57 percent in Queensland, 63 percent in Victoria and 67 percent in Western Australia. Clearly the impact of police breath testing is of major importance as an influence on group drinking practices, especially in NSW where the enforcement of RBT has been so intense.

Evidence for an impact of RBT in NSW on the broader social environment is less systematic and more equivocal. Initially, proprietors of clubs and pubs complained of greatly reduced patronage, and there is evidence that overall beer consumption, relative to levels in other states, declined for a period (Cashmore, 1985). However, the most marked effects appear to have been a trend away from "on premises" drinking, especially draft beer, to buying packaged alcohol and consuming it away from licensed premises. Responses of the liquor industry, in NSW and other states, have included the heavy promotion of low alcohol beers ("breathe easy" is a current advertising slogan), and the development of more up-market drinking establishments which provide good food and entertainment. In addition, patron-operated breathalysers have proliferated in clubs, pubs and naval establishments (E.L. Sly, Private Communication, November 10, 1988).

Paradoxically, although firm statistics are not available, the very success of RBT in persuading many people to leave their cars at home when they travel to or from pubs, is believed by some police and railway officials to have contributed to increased levels of drunkenness and violence on trains, and to more violence, street crime and disorderly conduct in the vicinity of pubs at closing times. Part of the reason for these possible unintended outcomes is the inadequacy of public transport in many areas, especially in the early hours of the morning, and the unwillingness of taxi drivers to pick up drunks.

Despite these possible side effects, a major positive result of the introduction of RBT has been to increase markedly the level of public support for the concept of random testing, a phenomenon also noted in other states (Monk, 1985). While support in NSW in 1982 (before the law) was 64 percent, in 1983, 85 percent thought it should continue. By 1987, the level of support had grown to 97 percent (Homel et al., 1988). Even more significant, the percentages willing to label a drinking driver who crashes or is stopped by police as "irresponsible, a criminal, or a potential murderer", rose to their highest levels ever in the most recent government survey (1987). This is the first piece of quantitative evidence that moral attitudes to drinking and driving may be changing in NSW. Of course it is difficult to prove that RBT (or any other factor) is the major cause of this change, but since RBT is known to have had a major impact on behaviour, it provides a plausible explanation for a least some of the change in attitudes. Perhaps RBT has acted for some people as a "moral eye-opener" (Andenaes, 1983, p.2).

Random Breath Testing in Other Parts of Australia

The dramatic experience with RBT in NSW has not been duplicated in most other states and territories, mainly because the law has generally not been implemented with the same degree or vigor. The only state which can match (indeed, exceed) NSW in enforcement intensity is Tasmania, where each year three roadside tests are conducted for every four licence holders (Homel, in press(a)). Although evaluation data are mostly lacking due to a small population and limited resources, accident data for Tasmania seem consistent with NSW patterns, with 42 percent fewer alcohol-related fatal crashes in the three years post-RBT than in the six years prior to RBT (Federal Office of Road Safety, 1986).

In all other jurisdictions, implementation and publicity have been less intense than in NSW or Tasmania, and the impact of RBT has been correspondingly less impressive (Table 1). Victoria, which in 1976 was the first state to introduce stationary RBT, has only recently (December 1989) achieved an annual testing rate of better than one test for every three licenced drivers. This result has been obtained partly through the use of "passive detectors" that allow a quick and cheap alcohol check on a large number of motorists without the need to administer a formal preliminary breath test to every motorist pulled over. Probably because until very recently Victoria's test rate has been well below one test for every three licenced drivers, and because RBT has been less visible and less well publicised than in NSW, the percentage of fatal casualties with illegal BAC levels in Victoria has been around 38 percent, significantly higher than the New South Wales proportion of around 33 percent (Federal Office of Road Safety, 1990).

Observation of Victoria's approach to drinking and driving law enforcement in recent years is instructive, since it suggests some reasons why even with RBT legislation the deterrent impact can be less than optimum. At the operational level, a fundamental problem appears to have been that although Victoria police were instructed to increase the total number of breath tests (and were allotted monthly quotas), no instructions were issued concerning the required ratio of stationary random breath tests to other forms of preliminary breath tests. Apart from stationary RBT, police in Victoria are permitted to administer preliminary breath tests to motorists pulled over through mobile RBT (since March 1987), as well as to motorists involved in a crash or committing a traffic offence, or simply driving in a suspicious manner. A motorist is much more likely to return a positive reading in all these latter situations than in stationary RBT. Since most police officers naturally prefer a method of enforcement that is more obviously "productive" than stationary RBT, in many areas stationary RBT tends to become a residual method of drinking and driving law enforcement.

In this author's opinion, the operational difficulties which beset RBT enforcement in Victoria reflected a confusion on the part of police concerning the general deterrent objectives of mass breath testing. This confusion reflected, in turn, a lack of political will to push stationary RBT "too far" lest the community or powerful interest groups be alienated (Homel, in press(a)). The fact that this political caution appeared to apply in a state which has always prided itself on being a trailblazer in road safety and was the first in Australia to introduce RBT, illustrates that the existence of RBT legislation does not ensure that it will always be enforced in an efficient manner.

Although most states, including Victoria, are making strenuous efforts to increase their levels of visible stationary random testing, results are mixed. In South Australia, RBT was introduced in October

1981 in a very low key way (with only two RBT units), partly because the law was vigorously opposed by one of the two major newspapers. McLean and his colleagues (1984) used three 24 hour roadside surveys to evaluate the law, and found only a small, temporary effect on drinking and driving. In addition, they presented evidence that seasoned drinkers were learning to avoid stationary RBT operations, which were generally in predictable locations on main roads, with the result that there had been a 40 percent increase in accidents on back roads late at night. This evaluation, together with the obvious success of RBT in NSW, led the South Australian government late in 1986 to intensify the level and sophistication of enforcement, making RBT more ubiquitous and more difficult to avoid. In addition, they invested heavily in media publicity.

McCaul and McLean (in press) evaluated these changes, using late night roadside surveys in Adelaide. Based on a total sample of 7,720 drivers, they found a 34 percent reduction in the proportion of drivers over 80 mg percent (the legal limit). In addition, King (1988) reported that fatalities in the 12 months from May 1987 were 13 percent less than expected on the basis of the previous five years. Unfortunately, at last report (McLean, personal communication, February 1990), drinking and driving had almost returned to pre-1987 levels, a situation attributed by McLean to a failure to invest in long-term publicity highlighting the real increases in police enforcement which had taken place since that time. The long-term effectiveness of the 1987 intensification of RBT must therefore be in doubt.

Like South Australia in 1987, the two states which held out longest against RBT, Queensland and Western Australia, both introduced RBT late in 1988, with the objective of matching NSW testing rates. Evaluations of the earlier roadblock method of enforcement in both states had indicated that, at best, temporary benefits were achieved when roadblocks were used, even on an intensive basis (Losley & Lo, 1988; QLD Transport Policy Planning Unit, 1987). However, evidence from both states suggests that although as many as six drivers out of ten are now being stopped under the RBT legislation, only about half are being tested (Homel, in press(b); Traffic Board of Western Australia, (WA) 1989). In WA, drivers are sometimes detained for a full five minutes while the legislation is explained, equipment checked, and statistical information recorded, while in Queensland a high 2.4 percent of tests are yielding readings over 50 mg percent, suggesting an element of "target testing". Thus, it seems that both QLD and WA police, having become used to the roadblock approach, are finding it difficult to adjust to mass random breath testing.

Preliminary analysis of the 1989 road toll in Queensland (QLD Department of Transport, 1990) indicates a 43.6 percent reduction in alcohol-related fatalities in the period 8 p.m. to 2 a.m. and a 33.8 percent reduction in alcohol-related fatalities overall, compared with the mean for the previous three years (1986-1988). However, evaluation is difficult since some decline in fatalities could have been expected anyway, following EXPO '88 which was held in Brisbane in 1988. In addition, the graph of fatalities was showing an ominous trend upwards for late 1989.

The official evaluation of the first nine months of RBT in WA (Traffic Board of Western Australia, 1989) concluded that RBT had been effective in reducing night-time alcohol-related accidents and in improving police enforcement efficiency, and had the strong support of the public. The report recommended that RBT be made permanent in WA. However, while it is clear that RBT accomplished something in WA relative to what the report terms "defacto RBT" (roadblocks) which operated for some years prior to 1989, the data presented in the report does not support the authors' strong conclusions. While there was a statistically significant decline of 29.5 percent in alcohol-related fatalities in country areas compared with the mean for the previous four years, there was a statistically significant increase of 28 percent in alcohol-related fatalities in the Perth Statistical Division, despite a decline of 21.5 percent in non alcohol-related fatalities in Perth. The statistics for night-time single vehicle fatal and serious injury crashes for the whole of the state, controlling for the period of the week, show no effect of RBT relative to the previous two years of intensified roadblocks. While the same analysis for the ratio of day-time to night-time crashes shows no trend at all from 1981 to 1989, suggesting no impact of roadblocks or RBT if daytime single vehicle fatal and serious injury crashes are taken as a control for the same type of accidents at night (not necessarily a sensible procedure).

Examination of the information in the report on police enforcement and on driver responses to RBT suggests some clues as to why RBT in WA appears to have met with such mixed success. The country versus city result may well reflect relative levels of enforcement. Relative to the number of licenced drivers in country and city, police officer hours and the numbers of drivers stopped, tested, and charged were much higher in the country, suggesting higher visibility and more effective deterrence. Survey data, collected on a statewide basis once prior to RBT and twice during 1989, show a marked decline in the perceived probability of being breath tested, despite a predictable increase in the proportion of motorists actually tested. It is important to note that the actual rate of testing after 10 months of RBT was only 15 percent, half the level achieved in NSW in six months. In addition, fewer survey respondents reported seeing other drivers being randomly tested after RBT than before (down from 80 percent to around 68 percent). Although there was a decline in self-reported drinking and driving in both country and city, contrary to the situation in NSW, there was no correlation between being tested and reported behaviour change, casting doubt on the claim in the report that RBT was responsible for the noted changes.

In conclusion, despite significant short-term reductions in fatalities and serious injuries following RBT or intensified RBT in South Australia, Western Australia and Queensland, failure to implement RBT fully and in a highly visible fashion, together with a failure to support RBT enforcement with intensive, sustained media publicity, appear to have prevented the law from having the long-term deterrent impact it had in NSW. While the situation in Victoria is unclear, limited resources devoted to enforcement and publicity appear to have had a detrimental effect in that state as well.

Effective Random Breath Testing

Nothing in the Australian experience encourages the belief that roadblocks or sobriety checkpoints, without the use of full random testing, are capable of delivering a substantial and sustained reduction in alcohol-related casualty crashes. In this respect, the Australian literature is consistent with what is known of the effects of sobriety checkpoints in North America (e.g. Williams & Lund, 1984).

In addition, however, the Australian experience suggests equally as strongly that full random testing is also not capable of achieving long-term reductions in casualties unless it is rigorously enforced and extensively advertised. If visible enforcement and publicity are maintained, the deterrent impact is maintained; if visible enforcement is relaxed, or if publicity about RBT declines, the deterrent impact starts to wane. with RBT certain guidelines, beyond the rather gross and arbitrary "one test for every three licence holders", must be observed (see Homel, 1988, for supporting evidence). Some of these guidelines are listed below:

- While RBT operations should be visible, the visibility must be "threatening". What this means is that drivers should not believe that RBT operations can be easily evaded once they are in sight, and they should not be able to adopt tactics such as hanging back in a group of cars in order to avoid being pulled over. The actual means of achieving these conditions will vary from jurisdiction to jurisdiction, and even from area to area. They will probably also vary depending on the time of day and the day of the week.

- The goal of threatening visibility is to increase the perceived chances of apprehension for drinking and driving. Experimentation within each jurisdiction is required in order to determine how much testing should be conducted at times and places of high traffic volume when the incidence of drinking and driving is low, and how much should be conducted when traffic volume is low, but the incidence of drinking and driving collisions is high.

- All drivers pulled over should be breath tested. The practice in QLD and WA of only testing about half the drivers pulled over appears, on both theoretical and empirical grounds, to undermine the deterrent impact of RBT. The reason for this is that many drinking drivers believe that they can behave when inebriated in a manner which draws no attention to themselves whatsoever. When it is widely known that police have been granted discretion in whether or not they test a driver pulled over, experienced drinkers in particular will continue to take the risk.

- Continuous feedback to police on the goals and effectivness of RBT is required, to counter inevitable trends for apprehension-based enforcement policies to displace RBT. It must be stressed that RBT is not a technique for apprehending offenders, but for deterring them. Media publicity on stationary RBT is helpful in this respect, since it provides a model for police to emulate and encourages them in the knowledge that they have the full support of the government. In addition, quotas must be set for highly visible stationary RBT, not just for total preliminary breath tests (which includes target testing as well as stationary RBT).

- Because mobile RBT is much less visible than stationary RBT and cannot therefore create a high perceived probability of apprehension in a large number of motorists, it should always remain supplementary to stationary RBT. Probably the main value of mobile RBT is to deter motorists who believe they can evade stationary RBT.

- Media publicity is essential in order to launch RBT "with a bang". Subsequently, visible enforcement is probably more important than publicity, but periodic media blitzes (usually around Christmas) are essential to boost the visibility of RBT. Publicity should be centered around RBT and should not be simply educational in content (for example, by portraying drinking and driving as dangerous or criminal without reference to RBT and the risk of apprehension if the law is violated).

- Penalties no more severe than fines of a few hundred dollars and licence suspensions of a few months duration are required, although they should be applied with close to one hundred percent certainty to convicted offenders. Imprisonment is unnecessary, costly, and counterproductive (Ross & Vozs, 1989).

- RBT as a preventive policy must be run in parallel with enforcement methods which aim to maximize the apprehension rate. One reason for this is that the overall goal of general deterrence is better achieved if persistent offenders experience for themselves arrest and conviction, since convicted offenders are more responsive to the threat posed by RBT (Homel, in press(a)). In addition, it is necessary to target offenders who believe that RBT can be avoided. Thus stationary RBT operations, which are not designed to catch many offenders, can never be the sole mode of drinking and driving law enforcement.

Conclusion

Random breath testing, if enforced and publicised according to the "guidelines", can be an extremely effective deterrent to drinking and driving. In addition, it is potentially fairer than all alternative forms of enforcement, which involve to a greater or lesser extent the targeting and punishing of "high risk" road users who fulfill police and judicial stereotypes of who the dangerous drivers are (Homel, 1983a; 1988). Such high risk road users do indeed account for a disproportionate share of accidents, but RBT is a genuinely preventive technology which more effectively addresses the behaviours of these groups than traditional enforcement methods, while also ensuring that "low risk" road users are deterred. The deterrence of low risk drivers is essential since although, by definition, they pose a problem on an individual basis less often than high risk drivers, because they are so numerous their contribution to the road toll is considerable. This is an illustration of the "prevention paradox", discussed by Kreitman (1986) in the broader context of alcohol abuse.

It is true, of course, that RBT poses problems for civil liberties, especially in the United States where there are constitutional barriers to its introduction in unmodified form. Following the approach of the previous paragraph, however, perhaps one important observation should be made. The hand of the law already falls heavily on the young and the low status, and will continue to do so, whether or not such a strategy can be demonstrated to be effective for crime and traffic control (Homel, 1983 a and b). Since law enforcement will continue in the short to medium terms to be the key weapon in the war against drinking and driving, at least in Australia, any discussion of civil liberties should begin with a realistic assessment of what already happens on a day to day basis on the streets and in the courts in the course of "routine" law enforcement. A concern with civil liberties may simply be part of the response of the low risk (moral) majority to the threat of routine police surveillance-reserved hitherto mainly for the obviously blameworthy (Gusfield, 1981).

The civil liberties debate illustrates the obstacles which must be surmounted before a radical enforcement technique like RBT can be implemented. It should be clear from this paper that there are many other obstacles to the achievement of an effective deterrent, even if the legislature and the police are enthusiastic in principle about RBT. My observation of other countries, particularly New Zealand, Britain and the United States, is that enthusiasm for deterrence is unabated but that the willingness to implement RBT in a "boots and all" fashion along New South Wales lines is far from strong. What seems most likely is that more limited forms of random stopping operations will proliferate (perhaps inspired by the NSW experience), but that RBT along NSW lines will never become the cornerstone of enforcement policy as it has in most parts of Australia. The irony of this situation is that in view of the Australian experience, not to mention the theory of general deterrence, if full RBT is not introduced in a wholehearted fashion its long term value becomes quite limited. Resources are better directed to road improvements and alcohol control policies than to half-baked forms of random breath testing.

References

Andeanes, J. (1983, November). Prevention and Deterrence - General and Special. Paper Presented at the Ninth International Conference on Alcohol, Drugs and Traffic Safety, Puerto Rico.

Berger, D., Snortum, J., Homel, R., Hauge, R. and Loxley, W. (1989, October). Social, Cultural and Legal Influences on Alcohol-impaired Driving: Compliance in Australia, the United States and Norway. Paper presented at the 11 th International Conference on Alcohol, Drugs and Traffic Safety, Chicago, ILL.

Cashmore, J. (1985). The Impact of Random Breath Testing in New South Wales. Sydney, NSW: Bureau of Crime Statistics and Research.

Federal Office of Road Safety (1986). Drinking Driving Controls in Australia. Canberra, ACT: Author.

Federal Office of Road Safety (1990). Road Crash Statistics Australia: January 1990. Canberra, ACT: Author.

Gusfield, J. (1981). The Culture of Public Problems: Drinking-driving and the Symbolic Order. Chicago: The University of Chicago Press.

Homel, R. (1983a). Young Men in the Arms of the Law: An Australian Perspective on Policing and Punishing the Drinking Driver. Accident Analysis and Prevention, 15, 449-512.

Homel, R. (1983b). Sentencing in Magistrates' Courts: Some Lessons from a Study of Drinking Drivers. In M. Findlay, S. Egger, & J. Sutton (Eds.), Issues in Criminal Justice Administration (pp. 109-125). Sydney: Allen & Unwin.

Homel, R. (1988). Policing and Punishing the Drinking Driver: A Study of General and Specific Deterrence. New York: Springer-Verlag.

Homel, R. (in press (a)). Random Breath Testing and Random Stopping Programs in Australia. In R. Jean Wilson & Robert E. Mann (Eds.), Drinking and Driving: Advances in Research and Prevention. New York: Guildford Publications.

Homel, R. (in press(b)). Random Breath Testing the Australian Way: A model for the United States? Alcohol Health and Research World.

Homel, R. Berger, D., Loxley, W., Snortum, J., & Hauge, R. (1990). The General Prevention of Drinking and Driving: A Comparative Study of Compliance with Drinking and Driving Laws in Australia, the United States and Norway. (Report in preparation for the Criminology Research Council.) Sydney, NSW: Macquarie University, School of Behavioural Sciences.

Homel, R., Carseldine, D. and Kearns, I. (1988). Drink-drive Countermeasures in Australia. Alcohol, Drugs and Driving, 4(2), 113-144.

King, M. (1988). Random Breath Testing Operation and Effectiveness in 1987. Adelaide, SA: Road Safety Division, SA Department of Transport.

Kreitman, N. (1986). Alcohol Consumption and the Prevention Paradox. British Journal of Addiction, 81,353-363.

Loxley, W. and Lo, S.K. (1988). By the Back Door: Experiences and Perceptions of Road Block Testing of Drink Drivers in Western Australia, 1988. Perth, WA: National Centre for Research into the Prevention of Drug Abuse.

McCaul, K.A. and McLean, A.J. (in press). Publicity, Police Resources and the Effectivenss of Random Breath Testing. Medical Journal of Australia.

McLean, A., Clark, M., Dorsch, M., Holubowyca, O., & McCaul, K. (1984). Random Breath Testing in South Australia: Effects on Drink-Driving, Accidents and Casualties. Adelaide, SA: NH&MRC

Road Accident Research Unit, The University of Adelaide.

Monk, K. (1985). Public Attitudes to Random Breath Testing. Melbourne, VIC: Road Traffic Authority.

NSW Police Department (1990). Statistics on Breath Tests for December 1989. Sydney, NSW: NSW Police Headquarters.

QLD Department of Transport (1990, February). Preliminary 1989 Road Toll Report. Brisbane: Author.

QLD Transport Policy Planning Unit (1987). Evaluation of the Reduce Impaired Driving (RID) Campaign. Brisbane, QLD: Department of Transport.

Ross, H.L. & Voas, R.B. (1989). The New Philadelphia Story: The Effects of Severe Penalties for Drunken Driving. Washington, DC: AAA Foundation for Traffic Safety.

Span, D.B.E. (1989). Enforcement of Drink-driving Legislation: Perceptions of and Attitudes Towards Random Breath Testing. Selected Results from a Survey on the Topic of Drink-driving and Random Breath Testing, March 1987. Sydney: Road Safety Bureau, Roads and Traffic Authority (NSW).

Traffic Board of Western Australia (1989). Evaluation of the Introduction of Random Breath Testing (RBT) in Western Australia. Perth, Wa: Author.

Williams, A.F. and Lund, A.K. (1984). Deterrent Effects of Roadblocks on Drinking and Driving. Traffic Safety Evaluation Research Review, 3, 7-18.

FINLAND

Dr. Jarmo Pikkarainen

Dr. Pikkarainen is Director of the National Public Health Institute and President of the International Association of Accident and Traffic Medicine

Random breath testing (RBT) is legally accepted in all Nordic countries (Denmark, Finland, Norway and Sweden), except Iceland. According to the concept of RBT a police officer is authorized to submit a driver of a motor vehicle to a breath test wherever and whenever without a previous suspicion of drinking and driving.

In Finland, RBT was introduced simultaneously with the mandatory blood alcohol concentration (BAC 0.05 percent) in 1977. According to the law, if a driver refuses to take a breath test when ordered, the officer has good reasons to believe the driver is drunk. In this case the driver is usually taken to the nearest health centre in order to give a blood sample (the driver can even be taken by force if he or she still refuses), and his or her driver's licence can be suspended at the scene temporarily. If the result of the blood test reveals a BAC less than the mandatory limit, the licence is returned to the driver. If it exceeds the limit, his or her case will be taken to the court and the driver will usually be sentenced and his or her licence revoked for a certain period of time depending on the BAC reading and to some extent, on the driving event.

RBT is without doubt the best way to achieve knowledge of the rate of actual drinking and driving. RBT provides information on alcohol positive drivers having a BAC higher or lower than the mandatory limit, i.e. on drivers who would usually never be arrested in normal police work.

This paper will provide our experience on the frequency of drunken driving in Finnish road traffic where a longitudinal study on comparable times and places has continued since 1979. Results on the different characteristics of both sober and drinking drivers from the same traffic flow will be presented. These results have partly been published earlier (Penttilä et al., 1981a and b; Pikkarainen, Penttilä, 1986a and b; Dunbar, Penttilä, Pikkarainen, 1987a and b; Pikkarainen, Penttilä, 1989a).

Method and Materials

In Finland, road side surveys on comparable times and places have been carried out annually with the Mobile Police, a special police force for the supervision of traffic, since 1979. The whole study has been carried out in the Province of Uusimaa which is the southern most province in Finland and where the capital, Helsinki, is also located. Although Uusimaa has only seven percent of the public roads, the population living in this province, the number of automobiles, the number of drunken drivers and road traffic accidents represent 24 percent, 24 percent, 24 percent and 26 percent of Finland, respectively. The validity of Uusimaa to represent the country was tested by specially arranged nationwide surveys. For that purpose the commanding officers were pretrained to be able to conduct the survey in their region according to the same rules described in the following paper. The method used in our study, the so-called R-study, was tested during the previous year (Penttilä, Mäki, Pikkarainen, 1979).

The Team

Between eight and 12 officers (four to five patrol cars and one to two police motorcycles), and either one or both of the authors (physicians), someone to record the traffic and persons to interview the sober drivers (in 1986), participated in each survey. With this size of team we were able to breathalyze 1000 drivers per hour. Acting as one team and moving the road block after 30 minutes of active testing to another place did not cause any special attention among the people of that community as well as among the drivers, as would have been the case if several teams had been operating simultaneously in the same region. It was also important that at least one of the authors was present in order to interview all alcohol positive drivers at the scene, immediately after detection.

Places

The places of checkpoints were chosen because they represented different types of roads and regions of the Province of Uusimaa as randomly as possible. However, it was important that the driver could not expect it and had no possibilities of avoiding the checkpoint. If such a possibility existed a patrol car was so located so as to ensure all drivers making an attempt to flee could be breathalyzed. In general, for scientific purposes special attention was paid to measure the rate of drinking and driving in the normal traffic flow. For that reason, the check points were not placed near premises, i.e., restaurants etc.

Times

In 1979, we studied the rate of drinking and driving two to three days per week, mainly on Tuesdays, Fridays and Saturdays each month. Other weekdays were also tested. For the longitudinal study Tuesday and Saturday were selected to represent an ordinary weekday (expected to have a low rate of drunken driving), and a typical weekend day, respectively. The longitudinal study was planned to consist of three Tuesdays and three Saturdays both in the spring (March - May) and in the fall (September - November). This was not always possible during the study period because our team was sometimes needed to attend to other police duties.

The hours in which breath testing was carried out were as follows: Tuesday 7 a.m. - 11 a.m.; 4 p.m. - 6 p.m.; 9 p.m. - 1 a.m. and Saturday 8 a.m. - 1 p.m.; and 9 p.m. - 1 a.m. (Sunday). These hours represent the traffic to and from work, weekend shopping traffic and driving during leisure hours in the evening and/or late night traffic.

Operation

At checkpoints, officers stood in the middle of the street in order to breathalyze every driver. The exceptions were the alarm vehicles (police cars, ambulances or fire department vehicles with their blinking alarm lights on). The type of breathalyzers used was also an important component of the study. The alcometers (PST-M1; Lion Laboratories, Ltd., Cardiff, U.K.) which allow a breath test to be repeated immediately if the test is negative were used. In positive cases the car was driven by the testing officer to the side of the road where we had a van set up for further procedures.

In the van the result of a positive breath test was controlled and if the individual was still over the mandatory limit, a sampling of blood for determination of BAC was carried out by the authors at request of the police. At the same time, after introducing ourselves as scientists carrying out research on drinking and driving, we began to take an additional sample for the determination of biological markers of excessive drinking with the permission of the alcohol positive drivers (BAC>0.050 percent and BAC <0.050 percent) in 1982 and in 1985, respectively. More than 90 percent of the alcohol positive drivers accepted this additional sampling when they were told that they would receive the results of these tests (activities of serum gamma glutamyltransferase, aspartate and alanine amino transferases) free of charge. In the case of a drunken driver (BAC>0.05 percent) a medical inspection was also made in order to determine the stage of inebriation. All alcohol positive drivers were interviewed before or during the control tests to get information on the car and the driving event, driver's demography, his or her drinking habits, earlier convictions of drunken driving, etc. In 1986, a statistical sample of sober drivers from the same traffic flow where the alcohol positives were detected were also interviewed.

The driver's licence was suspended temporarily by the police at the scene until the result of the BAC was available and the public prosecutor had decided whether to take the case to court. Thus, the car was not to be moved from the checkpoint unless there was a sober, licenced driver. This suspension and perhaps a later revocation of the licence by the police is an administrative act established to protect society and is considered as punishment in Finland.

Usually a driver passing a road block warns other drivers (e.g., by blinking the head lights). This is the case with a radar control but not very often with a sobriety checkpoint. Random breath testing is accepted by the driving public. The few refusals we have found on the road have been willing to give a breath test when the consequences were made clear to them.

Results and Discussion

A total of 166,650 drivers were breathalyzed on comparable times and places during 1979 through 1988. Altogether 494 hours were used for active breath testing. During this time span several things were learned.

Public Opinion

The driving population is in favour of testing even without any suspicion of previous drinking. This is confirmed with the very low rate of primary refusals. It also shows that the Finnish driver does not take RBT as a violation of his or her civil rights.

Frequency of Drinking and Driving

Throughout the study, the highest rate of drunken drivers in normal road traffic was detected on Saturday mornings (8 a.m. - 1 p.m.). A comparison of the late evening traffic (9 p.m. - 1 a.m.) could not reveal any differences between Tuesday and Saturday (0.27 percent vs. 0.28 percent). In general, it can be stated that the rate of alcohol positive drivers not guilty of drunk driving was about twice the rate of guilty drunk drivers.

During the study period the frequency of drunk drivers on average decreased from 0.50 percent (1979) to 0.20 percent (1984 and 1985) and then increased to 0.25 percent (1988). The decrease of alcohol positive but not guilty drivers has been even higher (i.e., from 1.16 percent (1979) to 0.37 percent (1988)). To conclude, the rate of drunk driving has been halved since 1979. Another lesson learned has been that the officers have now begun to breath test drivers more often in their daily routine voluntarily, especially on Saturday mornings.

Although the R-study was carried out in the Province of Uusimaa only, the rates obtained can be taken to represent the whole country as confirmed by the nationwide studies using the same method in 1984, 1987 and 1988.

From 1979 to 1988 the number of automobiles, the annual volume of traffic in millions of kilometres driven annually and the annual consumption of alcohol have increased 53 percent, 38 percent and 18 percent, respectively. According to these figures the rate of drunk driving has not increased as much as could be expected from the number of samples of arrested drunk drivers.

Characteristics of Drivers and Driving Event

If different types of drivers from the same traffic flow in the R-study, (sober and alcohol positive) are compared, there are differences between the driver groups. The situation is the same when drunk drivers are compared to the drinking drivers of the R-study or to those drunk drivers arrested in normal police work in all of Finland.

Preliminary results show no great trends in terms of the characteristics of drivers, from 1979 to 1988. The same is true for driving event. An exception is those parameters which represented alcohol problems and problem drinking.

Problem Drinking

During the interview, alcohol positive drivers of the R-study were asked if they had been previously convicted for drunk driving. An increasing number reported an earlier conviction during the study period. The correlation coefficients (r) for both drunken and drinking drivers were 0.714 (df 8, $p < 0.05$) and 0.859 (df 8, $p < 0.01$), respectively.

An elevated serum gamma glutamyltransferase activity reflects a heavy burden to the liver, often due to excessive drinking. In the R-study the proportion of alcohol positive drivers is high, actually higher than in the police material but there was not a statistically significant increase during the study period. However, the proportion of drunk drivers having an elevated GGT in the police material has increased from 18 percent to 30 percent since the end of 1970's (Pikkarainen, Penttilä, 1988).

A comparison of the different times of the day revealed that alcohol positive drivers of R-study with increased GGT were more often detected in the late morning or late afternoon than in the evening traffic flow.

It seems that the population of alcohol positive drivers has changed in the '80's towards problem drinkers, a hard core group, difficult to prevent from driving after ingestion of alcohol. That problem drinking is not unusual among drivers was further confirmed by our study on unselected killed drivers or riders from Uusimaa in 1982 through 1986. Almost half of them (45.9 percent) had a fatty liver degeneration. In most of the cases this was due to a high consumption of alcohol. Unexpectedly, this fatty change of liver was more common (52.3 percent) among fatalities with no alcohol in their blood or with a BAC below the mandatory limit compared to those (33.3 percent) with a BAC exceeding the limit (Penttilä et al., 1988). A similar result was found among deceased Scottish drivers (Fernando et al., 1989). Thus, a long term effect of excessive drinking cannot be excluded as a cause of a fatal accident even when the driver was not drunk.

Effect of RBT on Road Traffic Accidents

Has RBT saved lives in Finland? The number of individuals killed in road traffic increased from the '60's having a peak in the early '70's and decreased in the latter half of '70's. In the beginning of the study, this decrease had levelled and was around 600 in road traffic accidents (RTA) with 70 accidents being alcohol related (DDA) until 1988. The percentage of alcohol involvement has not changed significantly in road traffic accidents. However, in the injurious accidents, alcohol was involved three percent more often as compared to all road traffic accidents.

According to the Central Statistical Office of Finland, the term "alcohol involvement" includes not only alcohol positive drivers but drunk pedestrians, too. Thus, a more reliable parameter might be the percentage of drunk drivers in alcohol related accidents from drivers in RTA. However, even this ratio for both killed and injured (drunk) drivers did not change significantly from 1979 to 1988 (r 0.233 and -0.264, respectively).

The introduction of RBT and mandatory BAC limits have not had any effect on accident rate or collision severity. The lack of an obvious effect can, at least partly, be explained by the fact that we are dealing with very small figures. The number of individuals killed and injured in drunk driving accidents has varied annually during the study period from 54 to 99 and from 881 to 1229, respectively.

Summary

The Finnish legislation permitted a longitudinal study on the amount of alcohol-positive drivers in traffic flow during 1979 through 1988. The rate of alcohol-positive drivers has halved. Increased supervision of traffic has been considered to be the major reason for this decrease. However, the decline was not reflected in the number of accidents, probably because the figures were small.

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References

Dunbar JA, Penttilä A, Pikkarainen J. Random Breath Testing: An Effective Means of Reducing Drinking and Driving and Identifying Problem Drinkers. In: Noordzij PC, Roszbach R, eds. Alcohol, Drugs and Traffic Safety. Proceedings of the Tenth International Conference on Alcohol, Drugs and Traffic Safety. Amsterdam: Elsevier, 1987a:517-20. (International congress series; no. 721).

Dunbar JA, Penttilä A, Pikkarainen J. Drinking and Driving: Success of Random Breath Testing in Finland. Br Med J 1987b:295:101-3.

Fernando GCA, Slidders W, Penttilä A, Pikkarainen J, Dunbar JA. Estimation of Alcoholic Liver Disease by Quantimet 970 in Fatally Injured Motor Vehicle Drivers. In: Perrine MWB, Ashley JA, Fortini M-E, Foss RD, Stilwell SH, eds. Abstracts of the 11th International Conference on Alcohol, Drugs & Traffic Safety (T89). Chicago: National Safety Council, 1989:C 26. (in extenso in press).

Liikennetilastollinen vuosikirja 1988 (Statistical Yearbook of Traffic 1988). Tilastokeskus (Central Statistical Office of Finland), Liikenne 1988:13.

Penttilä A, Aas K, Nevala P, Piipponen S, Pikkarainen J. Drunken Driving in Finland. II. The Profile and Frequency Based on Road-side Surveys. In: Goldberg L, ed. Alcohol, Drugs and Traffic Safety. Proceedings of the Eighth International Conference on Alcohol, Drugs and Traffic Safety. Stockholm: Almqvist & Wiksell, 1981a:1:234-50.

Penttilä A, Aas K, Nevala P, Piipponen S, Pikkarainen J. Rattijuopumus Uudellamaalla. Ratsiatutkimus alkoholia nauttineista kuljettajista vuonna 1979. Helsinki: Kansanterveyslaitoksen julkaisuja A1, 1981b:1-83.

Penttilä A, Karhunen PJ, Dunbar JA, Pikkarainen J. Alcoholic Liver Disease in Fatally Injured Motor Vehicle Drivers in Finland. In: Jelcic I, ed. Proceedings of the 11th World Congress of the International Association for Accident and Traffic Medicine (IAATM). Zagreb: Institute of Public Health of the City of Zagreb and IAATM, 1988:197-204.

Penttilä A, Mäki M, Pikkarainen J. Drunken Driving in Finland. Late-night, Weekend Incidence in Five Communities in 1978. J Traffic Med 1979:7:30-2.

Pikkarainen J, Penttilä A. Drinking and Driving in Finland. In: Nishikawa S, ed. Proceedings of the Tenth Congress of the International Association of Accident and Traffic Medicine (IAATM). Tokyo:Nihon Kotsu Kagaku Kyogikai, 1986a:162-5. (Kotsu Kagaku Kenkyu Shiryo (Traffic Research Report); no 26).

Pikkarainen J, Penttilä A. Drinks, Drugs and Driving in Finland. Past, Present and Future. In: Murayama N, Kiyono S, eds. Proceedings of the Twenty Second Annual Meeting of the Japanese Association of Traffic Sciences. Matsumoto: Shinshu University, 1986b:16-56.

Pikkarainen J, Penttilä A. Rattijuopumuksen kehitys Uudellamaalla vuosina 1979-1988 I. Ratsiatutkimus alkoholia nauttineiden kuljettajien määrästä tieliikenteessä. Helsinki: Kansanterveyslaitos, 1989; Kansanterveyslaitoksen julkaisuja A4/1989a, 77 pp.

Pikkarainen J, Penttilä A. Alcohol and Fatal Accidents in Recreational Boating. A Ten Year Study on Drinking Operating in Finland. In: Perrine MWB, Ashley JA, Fortini M-E, Foss RD, Stilwell SH, eds. Abstracts of the 11th International Conference on Alcohol, Drugs & Traffic Safety (T89). Chicago: National Safety Council, 1989b:C 11. (in extenso in press).

Pikkarainen J, Penttilä A. Frequency of Heavy and Problem Drinkers Among Finnish Drivers. Proceedings of an International Workshop, November 28-30, 1988, Paris, France. (in press).

Pikkarainen J, Penttilä A. Countermeasures of Drinking and Driving - the Nordic Experience. In: Proceedings of an International Congress on Drinking and Driving. Edmonton, Alberta, Canada, March 28-30, 1990 (these proceedings).

Tieliikenneonnettomuudet (Road Traffic Accidents) 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988. Tilastotiedotus (Statistical Report), Tilastokeskus (Central Statistical Office of Finland). Helsinki: N:o Li 1980:34, 1981:30, 1982:29, 1983:, 1984:23, 1985:24, 1986:25, 1987:24, 1988:6.

ENGLAND

Dr. James Dunbar

Introduction

For the better part of a decade, the Government in Britain has been under increasing pressure to introduce effective legislation against drinking and driving. The campaign crystallized in 1984 when the Secretary of State for Transport decided against a stringent "don't drink and drive" campaign in favour of "Stay Low". There were protests, and he unintentionally created media and popular interest in drinking and driving as a current affairs issue. One can date the major change in attitude to drinking and driving from this point, and the outrage at the inevitable increase in drinking and driving deaths which resulted from a campaign that was later acknowledged to be a mistake.

This outrage led to the formation of "Action on Drinking and Driving - ADD" a coalition group of organizations and individuals who sought to change the drinking and driving law. Their manifesto was:

- To introduce random breath testing;
- To lower the legal limit to 50 mg/100 ml with a zero legal limit for young drivers;
- To improve identification schemes for problem drinking drivers;
- To establish treatment programs for convicted problem drinking drivers;
- To immediately suspend a driving licence on giving a positive evidential breath test;
- To increase severity of sentencing, particularly where drivers had caused death or injury.

Learning the lesson from the 1970's where drinking and driving campaigners had sought a number of changes from government and only seen the least important implemented, Action on Drinking and Driving concentrated on campaigning for random breath testing, the single most important measure. As every relevant individual and organization was under the Action on Drinking and Driving umbrella, comment to the media was given as if with one voice.

In the five years between the formation of ADD in 1985 and the present day, popular support for random breath testing has increased from 40 percent to 90 percent. Even a majority of drinking drivers support its introduction. Every relevant agency in the alcohol, motoring, medical, legal and all enforcement fields, have been converted to the cause. The arguments are incontrovertible. Media support has been wholehearted and almost universal. Some coverage has been extremely controversial. Scottish television current affairs programme "Scottish Action" ran six programs on drinking and driving campaigning for the introduction of random breath testing. At the end of each programme a roll call of convicted drinking drivers for that week was shown with their addresses and sentences. Controversy was intense, but support for this measure was strong.

Apart from the media, the other key group to influence decision-makers were the Association of Chief Police Officers. After listening to the arguments from Action on Drinking and Driving, three senior police officers went to study random breath testing in New South Wales and Victoria. They were convinced of the merits of the case and approached the Home Secretary. A consultation process was held which ended a year ago and of the 3,400 replies, 3,000 were in favour of the introduction of random breath testing. No opposition political party is against the measure. At the time of writing the government itself was split, with the Transport Department in favour of the introduction, but the Home Office against, though encouraging the police to use the present laws to the fullest extent.

The remainder of this paper outlines the arguments used to convince the public and special groups of the case for introducing random breath testing.

Random Breath Testing

Over the last ten years random breath testing has proved itself as the central countermeasure against drinking and driving. The success of random breath testing has been measured in Sweden under controlled experimental conditions. The Swedes, who have a better traffic safety and drinking and driving record than the British, concluded that random breath testing reduces the number of drunk drivers in traffic, the average alcohol levels, and the number of night-time injury accidents. They also found that there was no evidence that the success of random breath testing was enhanced by publicity and information via the mass media (1). Random breath testing has been introduced in all states of Australia, Scandinavia, Finland and France.

Random breath testing involves giving the police the power to set up checkpoints at roadsides in order to test all drivers who pass by for alcohol impairment. Normally these checkpoints are maintained for half an hour and staffed by eight to 12 policemen, each with a breath testing kit. By standing along the central line of the road they can test traffic going each way (2). The key to the success of random breath testing as a deterrent is that drivers recognize that:

- All drivers are tested;
- Checkpoints may be set up at any time;
- Checkpoints may be set up anywhere; and
- There is a high probability of being breath tested.

Random stopping and only testing drivers where there is a due cause does not achieve successful and sustained deterrence and is more cumbersome and irks police and public alike. Evidence from Sweden shows that over half of the drivers who are over the legal limit pass through such checkpoints without being tested. Indeed, nearly half of those drivers who are at twice the legal limit are not tested. This teaches drivers precisely the wrong lesson, i.e., that they can drink and drive.

Random Breath Testing Saves Lives

Perhaps the most important feature of random breath testing is that it reduces all forms of road accidents. Because it raises the driver's perceived risk of encountering police checks, it deters not only drinking and driving, but encourages safer driving in general.

Arizona police found that, after the introduction of roadside checkpoints all accidents were reduced by 42 percent, alcohol associated accidents were reduced by 33 percent and fatal accidents by 93 percent. This was achieved by an increase of 0.001 percent in resource costs! In Britain, random breath testing can be expected to reduce all fatal accidents by about 20 percent: between 400 and 1000 lives a year, and this effect would be sustained (2).

It is important to remember that in drinking and driving accidents many of the victims are completely innocent.

A major point in ensuring public acceptability is to emphasize that stopping at checkpoints and giving a breath test may save your life or the life of someone close to you.

Random Breath Testing Takes Only Seconds

A checkpoint does not cause traffic jams or tailbacks. The simple 'blow and go' process of giving a breath test using an alcometer only takes a few seconds and since - because of the deterrent effect - less than 0.5 percent of drivers are likely to be above the legal limit, there is little delay caused by processing these offenders. In a half hour checkpoint, twelve policemen could be expected to breath test 500 drivers without causing significant inconvenience to the traffic.

The effect is magnified by passengers witnessing the testing and media coverage.

Random Breath Testing Means Fewer Drivers Face Prosecution

It has been stated that random breath testing would vastly increase the number of drinking drivers caught and swamp the court system. This misses the point. Random breath testing works by deterrence. In total, fewer drivers would face prosecution than at present (3,4), due to the high level of deterrence achieved among social drinkers. Experience in other countries shows that following the introduction of random breath testing, it is mainly problem drinkers who continue to drink and drive (2).

The Random Breath Testing Pays for Itself

Few cost-benefit studies of random breath testing have been conducted. The Scandinavians and the Finns consider the savings in life and limb so important and obvious that they have not considered the cost. Nevertheless, they are able to say that not one extra policeman has been employed to carry out these tests and no reduction of police activity in other areas of work has been necessary.

In New South Wales, random breath testing is estimated to cost $5 million a year, mainly in random breath testing advertising. The savings have been set at $130 million (5). These savings have been mainly in health service costs. The savings in operating time, intensive care units, ambulances, and other elements of health resources as a consequence of the reduction in accidents is a major benefit of random breath testing. New South Wales achieved these savings by insisting that all patrolmen conducted random breath testing for one hour of every shift and achieved breath testing in one-in-three licence holders annually. In consequence, not only did drinking and driving reduce, but calls to domestic and other alcohol-related incidents were also reduced.

In the most recent review of random breath testing in Australia, Ross Homel concludes that the New South Wales model for random breath testing has been evaluated scientifically and shown to be of continuing effectiveness over five years. He argues that this model should now be adopted in other jurisdictions(6).

Yet another benefit from random testing has been a reduction in motor insurance premiums.

Random Breath Testing is Popular

One of the arguments frequently advanced against random breath testing in this country is public resistance, and impaired police relations with motorists. Opinion polls lay this ghost to rest. (7,8). Nearly 90 percent of electors were in favour of random breath testing - that is to say they felt that police should have "the power to set up checkpoints and breath test all drivers who pass by". Sixty-three percent of drivers who admit to drinking and driving are also in favour of random breath testing.

These polls confirm the finding of an earlier survey carried out for the General Accident Fire and Life Assurance Company that attitudes to drinking and driving have hardened, and that the public would support more stringent countermeasures. (9) Even our National Audit Office recognized the strength of the Australian and Swedish case for random breath testing and called the figures "noteworthy". It recommended that further consideration be given to random breath testing. (10)

More of the population in Britain appears to support random breath testing than was the case in New South Wales before its introduction there. In New South Wales, 60 percent of the adult population were in favour prior to introduction. The figure eight years later is over 90 percent. An interesting paradox applies. Random breath testing becomes more popular following its introduction and in those areas where it is most frequently carried out.(5,11)

It is interesting to note that British opinion polls indicate random breath testing to be more popular in Scotland than any other part of Great Britain. This is likely to be due to the greater media discussion of the measure in Scotland. Its popularity seems to increase as people come to understand it.

Random Breath Testing Catches the Really Dangerous Driver

Both at home and abroad, there is evidence that normal police routine leads to the arrest of a statistically biased sample of drinking and driving offenders. This is not surprising, as arrests are dependent on factors such as policing levels in different localities and, therefore, higher numbers of ethnic minorities, lower social class groups, the young, and car drivers are likely to be arrested. Paradoxically, problem drinkers, who are particularly likely to have road accidents, are missed by normal policing.

This includes the apparantly respectable driver who does not fall under suspicion, lorry and bus drivers, the alcoholic who is always drunk and the drinking driver in morning traffic. There is now considerable evidence that random breath testing has a much higher "capture rate" of these particularly dangerous offenders who might otherwise go on to have road accidents.(2)

A recent survey by General Accident Assurance Corporation uncovered two major types of offender. The first was the hard core business offender: styled a DUMBO by the pollsters (Dangerous Upper-class Middle-aged Business Man Driver Over the Limit) and a second group were called YOBS (Young Over the Limit Beers Drinkers). The DUMBOs are the group least likely to be arrested by our present drinking and driving law and the most likely to be caught by random breath testing.

The Effect of Random Breath Testing on Legal Limits

Random breath testing in Finland has shown that many drivers are over the legal limit in morning traffic. This is particularly serious since they are sharing the roads with especially vulnerable road users such as children on their way to school. Most of these drivers have had an exceedingly high alcohol level the previous night and have not yet metabolized it. Drivers who achieve such high alcohol levels are problem drinkers. They are particularly dangerous drivers who should be detected whereever possible. Finnish research also shows that many problem drinkers could escape conviction if the legal limit were 80mg/100ml since many of them are between 50 and 80 mg/100 ml in morning traffic. In order to catch these particularly dangerous offenders, the legal limit should be lowered to 50 mg/100 ml (2).

Conclusions

It is sometimes held that drinking and driving countermeasures successful in one country cannot be imported to another because of social or cultural differences. The British campaign for drinking and driving points against this. In a period of five years, random breath testing has gone from being unheard of to being seen as the single most important measure for controlling drinking and driving with overwhelming support throughout all sections of society including the drinking drivers themselves! This has been achieved by a simple consideration of the scientific evidence available. A unified campaigning organization, correctly advised on all aspects of drinking and driving countermeasures can ensure that the incontrovertible case for random breath testing is put across to people who will in time then insist that politicians implement it.

References

1. Aberg L., Engdahl S., Nilsson E. Intensifierad Overbankning Med Utandningsprov. TFB Reprt No. 12. Swedish Transport Research Board 1986, Stockholm.

2. Dunbar J.A, Penttila, A., Pikkarainen, J., Drinking and Driving: The Success of Random Breath Testing in Finland. British Medical Journal 1987, 295; 101-103.

3. Fife Drink Drive Campaign, Fife Constabulary, 1988.

4. Paciullo, G. Random Breath Testing in New South Wales. Medical Journal of Australia 1983, 140. 620-621.

5. Arthurson, R.M., Evaluation of Random Testing. Traffic Authority of New South Wales, 1985: 24-31.

6. Homel, R., Random Breath Testing in Australia; A Complex Deterrent. International Conference on Priorities for Prevention, Perth 1988.

7. Attitudes to Random Breath Testing. NOP, April 1987. (Available from the Institute of Alcohol Studies).

8. Lex Report on Motoring 1990. London 1990.

9. Attitudes to Driving/Driving. Social Surveys (Gallop Poll), London 1986: 2-12.

10. Department of Transport, Scottish Development Department and Welsh Office: Road Safety. Report by the Comptroller and Auditor General. HMSO London 1988.

11. Public Attitudes to Random Testing. Road Traffic Authority, Victorial 1986.

CHAPTER IV:
EDUCATION/PREVENTION

HOSPITAL INTERVENTION PROGRAMS FOR HIGH RISK DRIVERS

TAGGED...FOR LIFE

Dr. Louis Francescutti

Dr. Francescutti is the Director of the Injury Awareness and Prevention Centre, University of Alberta Hospitals

Between 1984 and 1988, there were 492,330 reportable traffic collisions on Alberta's roadways, resulting n 102,044 injuries and 2,400 deaths. For every day in 1988, an average of 301 traffic collisions were reported, 51 people were injured, and one person was killed. Clearly, there is a desperate need for methods to identify and reduce high-risk driving behaviour. The "Tagged For Life..." program targets 16 to 24 year olds who have been convicted of serious traffic-related offences, such as excessive speeding, careless driving, driving under the influence of alcohol or other drugs, and refusing to provide a breath or blood sample to traffic officers. These individuals are referred by the Department of the Solicitor General, to the "Tagged For Life..." program.

The goal of this day-long program is to bring these individuals face-to-face with the devastating actual consequences of high-risk driving behaviour, in order to increase awareness of how serious injuries occur, promote positive attitudes about safe driving, and encourage safe driving habits and adoption of a responsible lifestyle. The main "key" to the experience is a person who has suffered a spinal-cord injury and, in a wheelchair, guides participants through the entire program.

The program day begins in the emergency room where participants are shown slides of patients injured in traffic collisions; many of them faint at this stage. Next, they tour a trauma room, and then the neurological intensive-care unit and ward. Here, the reality of injury resulting from the type of behaviour they have been practicing is brought home to them and upsets them considerably. The seriousness of their behaviour is reaffirmed at their next stop, in the Social Services department, where they see the devastating effects on the family. They then have lunch in the company of a person who has survived a severe head injury, thus learning what this type of accident does to a person's life. Finally, they visit the rehabilitation facilities where participants see the prolonged suffering endured by patients whose spinal cord has been injured, the extensive and oft-painful therapy they require, and how they must live for the rest of their lives.

The effects of the program were examined in relation to driving behaviour. By December 31, 1989, 279 people had gone through the program; only 20 (7.2 percent) were females. Most of the participants were required to attend as a result of demerit suspensions. The average age of participants was 20.5 yrs., in a range of 16 to 24 years; 61.7 percent were in the age group 20 to 24 years. At least 66.5 percent of participants had a grade 12 education or higher; occupation varied widely (e.g., high-school and college students, laborers, and store managers). "Impaired" driving (under the influence of alcohol or other drugs) was most common in March 1989 (52 percent of the clients); in other months, this rate was 0 (September 1989) or varied between four percent and 22 percent. Using the McNemar x^2 test, analysis of data of changes in knowledge, attitude, and behaviour the following changes were revealed:

- Expressed intent to buckle seatbelts in future; the change was highly significant (74.3, $p<10^{-6}$);
- Increased awareness that the respondent's prior driving habits put him or her at risk of head and spinal cord injuries was highly significant (29.0, $p<10^{-6}$); and

- Increased belief by the respondent that he or she can do something to prevent head and/or spinal cord injury.

Overall, 99 percent of participants indicated that the program had had an effect on them and only one percent who completed the summary reports indicated no effect.

The program is being further evaluated for long-term effectiveness by comparing the driving records of participants for one year afterwards with a matched group of non-participants. This evaluation will begin in June 1990 and results are expected in late 1991.

PARTY PROGRAM

Judith Radford

Ms. Radford is the Project Coordinator for the Sunnybrook Medical Center, in Ontario

Introduction

The Party Program or Prevent Alcohol and Risk-Related Trauma in Youth is regarded as a service to the community in the form of an outreach program: a unique sharing of short- and long-term perspectives of risk-taking behaviours from health care workers and injured persons with young people targeted by age only.

This one-day risk awareness program takes place in a "real" setting. Sunnybrook Health Science Centre and Lyndhurst Hospital, a centre dedicated to spinal cord injury rehabilitation, became the stage on which students follow the path taken by injured persons from the acute phase through rehabilitation.

The program was developed to follow up a suggestion by students that an understanding of the consequences of some risk behaviours, especially drinking and driving, might be enhanced by a hospital visit. Initially their suggestion was dismissed as "not done", but insistence on the part of the students resulted in reconsideration and a stretching of the imagination as to what was possible.

Risk-taking behaviours that result in injury are the focus of a multi-disciplinary team program. The team includes health care professionals, in-patients and injured persons who have returned to the community. As a result of the interaction between students and the team, the students develop an awareness of risk-taking as a factor in injury, a recognition of risk-producing behaviours, and a readiness to take ownership for their part in the problem and their role in the solution.

Since its inception in 1986, PARTY has served over fifteen hundred 16 to 19 year-old students. Offered weekly during the school year, the program is available to classes of 24 to 26 students, from schools in and around Toronto.

Target Population

The target population is English speaking high school students, aged 16 to 19 years, in and around Toronto. Many of these people are either new drivers, or just learning to drive.

Though most are not of legal drinking age, many are experimenting with alcohol use, and some with other substances.

Needs Assessment

The Ontario Ministry of Transportation reports in the Accident Facts Summary for 1987 that:

- 9,270,700 is the estimated Ontario population;
- 1,229 people were killed;
- 121,089 people were injured;
- The average hospital stay for hospitalized victims is 10.6 days;

- 30.4 percent of persons killed were between ages 16 and 25;
- Speeding was the most common error in fatal accidents;
- Friday and Saturday were the days when accidents were most likely to occur;
- Alcohol involvement was reported in 40.6 percent of the drivers killed, and in 25.5 percent of the drivers involved in fatal accidents;
- 30.5 percent of pedestrians killed and 9.5 percent of pedestrians injured were alcohol involved. Alcohol involvement in fatal motorcycle accidents is 40 percent, a decline from previous years.

Results from the first year of a three year co-operative study by the Regional Trauma Unit and the Addiction Research Foundation about the type of patients admitted to the Regional Trauma Centre, indicates:

- 30 percent of patients brought to the Trauma Centre had been drinking;
- Of those, 90 percent were impaired well above the legal limit at the time of the accident;
- 30 percent of patients who had been driving were legally impaired at the time of the accident;
- Of the 530 patients admitted to the Trauma Unit in 1989, 72 percent were male, 60 percent aged 15 to 34, and more specific to our concerns, 34 percent were aged 15 to 24.

From the literature it is also believed, "that young drivers clearly underestimate the potential risks associated with certain behaviours and situations and that this is exacerbated and possibly caused by overconfidence and overestimation of their abilities". (Mathews, A.L. and Morgan, A.R., Age Difference in Male Drivers' Perception of Accident Risk: The Role of Perceived Driving Ability. Accid. Anal. & Prev 18, No.4. pp.299-313. 1986 (University of Guelph))

Background

From young people themselves, there are organized attempts to find solutions to the destructive behaviour of drinking and driving. As an example, many school groups have organized SADD (Students Against Drinking Drivers) Chapters. (In Ontario this network is now named OSAID, Ontario Students Against Impaired Driving). It was through interaction with such a group that the idea for our program was born. When a suggestion to reproduce the successful American C.A.R.E. program (Cancel Alcohol Related Emergencies), that is, a slide presentation of a typical Friday evening in Emergency, was put to this group, it was quickly dismissed by the students.

These students declared that a more effective impression would be made if they could go to the hospital themselves. When an explanation that "in-hospital" visits were perhaps impossible was met with persistence, their idea was considered, and resulted in the arrangement of a visit to Sunnybrook Health Science Centre. That year, winter 1986, two more visits were organized for the same school. Student enthusiasm, teacher networking and positive media coverage resulted in a flood of requests. The project was reorganized for bi-weekly presentation in the 1986-87 school year, and weekly from then on. The program continues to be booked well in advance and has a long waiting list. We now see approximately 700 students a year.

Goals

The goal of the program is to share in the community effort to decrease the number of youths injured and killed in alcohol and risk-related events. There is a threefold purpose to the program:

- To raise awareness and thus recognition of the behaviours that put young people at risk of injury;
- To identify reasons why these behaviours should be avoided, i.e., the body's vulnerability to serious and permanent injury, and the compromised independence that follows;
- To instill a sense of ownership, individually and collectively, for the problems resulting from these behaviours, so that youth attending this program will be encouraged to become active agents in promoting prevention strategies.

Objectives

More specifically, at the conclusion of participation in the PARTY Program, youth will:

- Increase their knowledge about the influence of alcohol/drug consumption on their behaviour and capabilities and the consequences of such behaviour;
- Examine their own attitudes and behaviours towards the occurrence and prevention of alcohol/drug impairment-related crashes and injury;
- Identify reasons why these behaviours should be avoided;
- Identify appropriate alternatives to alcohol/drug use, especially when intending to engage in activities that require concentration and skill; and
- Declare an intention to become active agents, individually and collectively, in the overall effort to decrease death and injury due to risk-taking behaviour.

The Program

Recognition of risk behaviour is developed by questioning students about perceived risks, such as drinking and driving, drugs and driving, speeding, not wearing seat belts, inattention to the specific task, such as drinking while driving or using machinery, improper preparation for sport or job, diving into unknown waters and not wearing safety equipment designed for the job or sport to be undertaken. An association between behaviour and consequence is developed.

Subtle use is made of the Trauma Unit and the Ontario Department of Transportation statistics, as well as anecdotal recall of reasons why patients are admitted to the Trauma Unit.

Recognition of reasons why risk behaviour should be avoided is approached from the view of independence as a common goal of adolescence. When visiting students are asked for their definition of independence, the usual answer is "doing what I want to do, the way I want to do it, and when I want to do it". As the program unfolds, the compromise of independence that often accompanies serious injury becomes a recognizable fact, thus revealing believable reasons why the situation should be avoided. Making choices that have implications for the present and the future is a theme that runs through the day.

By encouraging recognition of these risk behaviours as individual and group behaviour, students can then adopt ways of dealing with the behaviours on their own terms. Some suggestions are put forth, but only as a way of stimulating discussion. The first is to use peer pressure in a positive way, to provide other students with information that can be comprehended and can be communicated in a manner that it may be shared with others. Students are also encouraged to create other ways to change attitudes, such as starting a student-managed awareness program, or joining and advertising an existing one. We suggest that peer pressure can empower youth to make a difference in their own lives.

We are careful to avoid telling students what to do and what not to do, but we do discuss the theory that many activities that provide pleasure are coupled with the responsibility for protection of self and others.

Although the program is operated within the hospital setting, we act mainly as facilitators. It is the hospital and rehabilitation environment, as well as the involvement of young patients (age 18 to 30), that makes the outcome believable for youth.

Community support has come from teachers who have attended the program and promoted the approach as an "eye opener" to colleagues. Some financial and advertising support has come from insurance companies, an automobile dealership, a parent, and schools that have attended. The entire student body at Leaside High School organized "Charity Week" events around the concept of PARTY. Invitations to participate in health fairs, school assemblies and special drinking/driving awareness programs in communities outside Toronto are frequent. Print and visual media have been very supportive. All the major networks, some radio stations, and the print media have given the program a very positive review.

Program Co-ordinator

Organizes all aspects of the weekly tour, responds to requests for information, participates in community events, plans future events, networks, attends and presents at conferences, maintains liaison with educational facilities, treatment and research centres, plans for evaluation process and actively seeks funding.

Air Paramedic

This 25-minute presentation, with visuals, follows the progression from accident scene to trauma unit. This portion includes a simplified explanation of forces inflicted upon the body, to the brain, the spinal cord and internal organs in blunt trauma. Irreversibility of injury to brain and spinal cord tissue is indicated in relation to the extreme care necessary in extrication and transfer, so that further injury is prevented. The ambulance system is explained and slides are included of the various aircraft used throughout the province. Graphic accident scenes and anecdotes are neither sensational, nor meant to induce fright, and altered to protect confidentiality.

Medical Considerations

This 15-minute presentation includes a case study organized to cover an explanation of trauma, and the significance of injuries to the brain and spinal cord. Alcohol metabolism is explained in relation to impairment of fine motor skills, judgement, and the ability to react quickly. Blood alcohol concentration, legal allowable limit and the time necessary to regain sobriety are discussed, stressing the need to abstain from alcohol use when planning to drive, or perform activities that require judgement and skill. The presentation closes with mention of criminal and civil law as it pertains to drinking and driving, and the need for students to be leaders for social responsibility.

Spinal Cord Injury Care

Demonstration of the "Halo" apparatus for stabilization of fractured neck bones allows the students to touch and imagine how the apparatus would feel. Definition of quadriplegia and paraplegia are made in terms of remaining function. Discussion of spinal cord injuries received from other risk behaviours such as diving and falls is included, as well as statistics describing the overall picture.

Psychological Support

Once the students have been given some background information about the mechanism and implications of injury, the far-reaching consequences are discussed. The changes that occur in peoples' lives as a result of traumatic injury are explained through the story of a brain injured teenage girl.

Emphasis is placed on the unpredictable course this type of injury may take and the difficulty this uncertainty causes for family members. Using the pebble in the water illustration, the concentric rings of people and events affected by this injury becomes evident. The need for support of all family members, changes in family dynamics, financial and emotional burden, the need to make realistic plans to cope with an altered future are areas of consideration raised by the social worker.

Tour Guide

Students are divided into three groups of eight or more, and accompanied to the designated patient areas by members of the Sunnybrook Volunteer Association.

The guides are responsible for careful observation of the students' reactions, behaviours, and health. Sometimes students feel unwell. Though there are many reasons for this reaction, such as warm rooms and the unfamiliar hospital atmosphere, and sights and sounds, those students who have felt light-headed in past visits attribute the feeling to skipping breakfast. Appropriate first aid measures are followed when necessary.

Acute Care Nursing Units

Since nursing unit staff are best acquainted with their patients, they introduce the concept of PARTY to those patients whom they feel might want to participate in the program. When each small group of students arrives, the designated staff nurse explains the specialized nature of the unit, the specific care given and the common reactions of patients' families and friends. A short question and answer session follows each ward visit.

Patients

Nursing unit staff determine which patients might consider talking with students and solicit their interest in participation. Usually patient volunteers are young, and most often have sustained injuries as a result of a motor vehicle crash, fall or diving event. With respect to the patient's comfort and right to confidentiality, they are asked to discuss:

- Circumstances of the accident;
- What lifestyle changes the injuries have caused and the effect of such changes on their family, friends, school and/or job; and
- Any advice they may want to share.

People who volunteer to speak with the students say they do so to help spare others the pain and changes they are now coping with. Some say the reason is because they are "glad to be alive".

Lyndhurst Co-ordinator

Oversees participants and room designation at this institution.

Spinal Cord Injured Participants

This half of the program is conducted for the most part by Lyndhurst residents and former residents. Discussion is very informal and provides an opportunity for students to ask questions, clear misconceptions and become aware that there is hope for situations that at first look impossible to overcome. Discussion centres around activities of daily living, including changes in elimination and sexual function, relationships, coping skills and plans for the future. Because the students have spent the morning with patients in acute care, they can now appreciate how far each person has progressed in coping with his or her misfortune. Recently a young man who is five years post head injury joined the discussion about "getting on with your life". The sharing of frustrations and successes stimulates much discussion. Appreciation for the coping skills and courage is evident and voiced as the interaction develops. Since many of the injured participants are the same age as the students, conversation is relaxed and in language style that is comfortable to the peer group.

Outreach Programs

Invitations usually consist of appeals to participate in special events such as health fairs, school assemblies and kick-off events that are designed to raise awareness of risk behaviours.

Depending on the program request, one nurse or a team can be sent. The team composition is flexible, consisting of a nurse and one or two volunteers who are accident survivors, or a nurse and physician.

Evaluation

Discussion is now in progress to determine the best way to evaluate the effectiveness of this program.

Over the past three years data have been collected but not yet analyzed. At present, the instrument of evaluation is a self-administered survey given pre- and post-program. As well, an open-ended follow-up is administered by the classroom teacher in the week following the program. Teachers are provided with guidelines to encourage group discussion following the visit.

Preparations are underway to determine the design of the research study. Comparison groups will be involved and permission will be sought to utilize driving records for long term follow-up as to crash/infractions behaviours. Permission must be sought from individual schools and boards to conduct follow-up research at a six month interval after PARTY involvement.

In the meantime students indicate that they have adjusted their behaviours over the weekend following their visit; some have stated that they did not combine drinking with driving as they had done in the past. Also, some groups have made plans to establish a SADD chapter (renamed OSAID-Ontario Students Against Impaired Driving) or student-oriented awareness program following their experience at PARTY.

The Future

The ultimate goal is to incorporate PARTY into the high school drug/alcohol curriculum, in a program that would also survey all other aspects of the impaired driving /risk behaviours spectrum. These portions could be addressed by practising professionals from the law, police, parental support groups, and community advocacy groups. Development of a video and expansion to other centres would assist in attaining this goal.

Both the in-hospital and in-school projects may be used as models for developing programs in other cities. At present, there are groups in Halifax and Vancouver that have requested assistance. As well, PARTY hosted a national conference entitled "Risk-Taking Behaviours in Youth", presented in Toronto in September 1989, focusing on ways in which Emergency Departments and Trauma Centres can participate in prevention in the form of outreach programs. Emphasis will continue to be placed on the need for injury prevention to become inherent in the daily operation of our health care facilities, our schools, the workplace, roadways and our homes.

ADVERTISING CAMPAIGNS: USING THE MEDIA IN HIGH PROFILE PUBLIC AWARENESS CAMPAIGNS

BRITISH COLUMBIA

Dr. William Mercer

Dr. Mercer is the Director of British Columbia's CounterAttack Program

Introduction

The province of British Columbia lies on the west coast of Canada and has an economy that is primarily resource-based in fishing, logging and associated industries. About half of the population of 3,085,300 lives in the "lower mainland" south-west corner of the province in relatively dense urban areas. The remainder is scattered in smaller cities and towns throughout the 366,255 square miles of mountains and valleys that comprise the majority of the terrain. In 1988 there were 2,621,535 registered vehicles and 2,441,631 licenced drivers which were involved in a total of 101,277 property damage traffic accidents, 30,935 injury producing traffic accidents, and 535 fatal traffic accidents. Overall, about 10 percent of the casualty-producing traffic accidents had alcohol as the primary contributing factor according to police investigations. Finally, 14,013 persons were charged under the Criminal Code with alcohol- related driving offences.

British Columbia's Drinking Driving CounterAttack Program was started in 1977 by the Ministry of Attorney General to reduce the incidence and severity of alcohol-related traffic crashes and the resulting costs to the people of B.C. The program strategy involved three interrelated activities: high visibility police roadcheck enforcement; year-round public education; and research and evaluation. Since the inception of CounterAttack, the proportion of alcohol-related casualty accidents in the province has been reduced by half, and the roadcheck periods in particular show a significant reduction in these crashes. Regarding public education, a 1989 telephone survey of B.C. residents held outside of the CounterAttack campaign periods showed: 88 percent knew of the program; CounterAttack was seen as a government and police sponsored enforcement and public education program; after the police (82 percent), CounterAttack (74 percent) was named as the most significant contributor to reducing drinking and driving in the province; 90 percent had seen an anti-drinking driving message within the previous month, 54 percent within the previous week, and 73 percent could recall the message; and the public indicated a wish for more roadchecks, more enforcement, and more public education. It is the purpose of this paper to detail some of the tactics used to meet the program's goals.

Administrative Structure and Funding

Drinking Driving CounterAttack is a crime prevention program of the provincial government, responsible to Cabinet through a minister. As such, any use of the CounterAttack logo or other identification must first be approved by the program. This government control allows province-wide consistency of related messages and ongoing monitoring and evaluation of the effectiveness of program activities. Further, because CounterAttack started before drinking and driving became a widespread public concern (e.g., before the formation of MADD, SADD and so on), the issue became universally identified with CounterAttack over the years. This has resulted in an ideal environment for cooperative ventures between the program and other agencies.

The provincial government budgets approximately $1 million per year for the CounterAttack Program. These funds are used to pay for: office space, supplies, and salaries for four personnel; research into the area; costs associated with public events and conferences; the purchase of police equipment and support for police activities; and for advertising and the production and distribution of public education materials.

While CounterAttack has recently been transferred from the Ministry of Attorney General to the Ministry of Labour and Consumer Services, there is a protocol agreement between the program and Police Services Branch, Ministry of Solicitor General that stipulates that no substantive change will be made in the nature of the program without the consent of that branch and the police (RCMP and 232 independent forces). By associating CounterAttack with this Branch, the program gains a degree of influence over police activities and priorities that would be impossible otherwise. In particular, the 2,000 auxiliary and reserve (volunteer) police as well as the crime prevention units are brought into the public education aspects of CounterAttack, such as public displays and talks to schools and organizations, leaving traffic units to concentrate on enforcement.

Further, as a government program, CounterAttack is promoted and assisted by a wide range of intra-governmental branches and agencies at no cost to the program. To illustrate: Vehicle Management Branch has had reflective plastic CounterAttack logo bumper stickers placed on, and brochures placed in, all government vehicles; Liquor Distribution Branch has CounterAttack brochures and posters in all liquor stores; government agents and Public Health Nurses distribute posters and brochures; Public Affairs Branch places articles on CounterAttack police roadcheck campaigns in the government tabloid Provincial Report which goes to every householder in the province; Motor Vehicle Branch places CounterAttack material in every driver's licence package (over one million per year); Motor Vehicle Branch also requires drivers to read and learn CounterAttack material produced on drinking and driving for the B.C. driver's licence examination; through the Ministry of Health, mailing lists, CounterAttack posters and other materials are distributed to all physicians throughout the province; and so on.

In addition, while there is no direct transfer of funds to the program from outside government, significant contributions to CounterAttack are derived through cooperation with other levels of government, Crown corporations and the private sector. The major partners with government in the program are as follows:

Federal Government

In conjunction with the Health and Welfare Canada National Impaired Driving Strategy, CounterAttack administers approximately $120,000 in grant funds for community based anti-drinking-driving projects. CounterAttack also represents B.C. on the National Impaired Driving Strategy Steering Committee.

Crown Corporations

- *Insurance Corporation of B.C.*

The Insurance Corporation of British Columbia (ICBC) is the provincial auto insurer and as a Crown corporation has the sole right to insure all vehicles in the province. ICBC has been a partner in CounterAttack since 1977. A protocol agreement between government and the corporation assures that ICBC will spend a minimum of $300,000 on the drinking driving issue each year, but the actual level of support in "kind" (e.g., field staff time) probably amounts to a combined total of about one million dollars. Under its mandate to reduce the cost of vehicle insurance, the ICBC Traffic Safety Education department holds yearly-youth conferences, distributes CounterAttack brochures and posters through auto insurance agents, organizes local traffic safety committees and so on.

- *B.C. Transit Corporation*

B.C. Transit is a Crown corporation responsible for virtually all public transportation in the province. During the Christmas CounterAttack police roadcheck period (December 8 to January 3), Transit's "Don't Take the Keys" campaign sells reduced fare tickets through businesses, runs free transit on New Year's Eve, and generally advertises the roadcheck campaign using busboards, television, radio, and bus shelter advertising. During the spring CounterAttack police roadcheck period (April 13 to May 3), the corporation holds their "gradpass" campaign, which involves not only similar roadcheck advertising as for Christmas CounterAttack, but also distributes free transit tickets to all graduates through the schools. The CounterAttack Program contributes about $10,000 to each of these transit campaigns, but receives in return approximately $300,000 in promotion for the roadchecks.

- *B.C. Ferry Corporation*

B.C. Ferry Corporation is a Crown corporation with the mandate to supply ferry service up and down the coast and to the islands. CounterAttack messages appear on the car decks and main decks, and brochures are available. As the majority of passengers on these ferries drive on and off, and, as many are from outside of B.C., these messages are well targeted. The Ferry Corporation contributed the space to CounterAttack at no cost to the program.

- *Broadcasters' Association of B.C.*

Like every other province, British Columbia has control over the content of electronic media (i.e., television, radio) advertising. The provincial government allows the advertising of beer, wine and ciders, and in turn the Broadcasters' Association of B.C. contributes 15 percent of that advertising time to messages produced and distributed by CounterAttack. Consequently, CounterAttack messages are aired every day of the year during prime-time periods. This contribution is valued at over three million dollars per year and results in a yearly airing of approximately 29,000 30-second radio announcements and 4,000 30-second television announcements.

Police Agencies

- *R.C.M.P. and Independent Forces*

Police throughout the province hold two high visibility roadcheck enforcement campaigns per year: Christmas CounterAttack from December 8 to January 3, and Spring CounterAttack from April 13 to May 4. (The latter dates were set to coincide with the school graduation and spring break period which tend to have relatively high drinking-driving crash levels.) During each of these campaigns the police stop over 400,000 drivers at roadchecks and these efforts comprise approximately 30,000 manhours at a value of about three million dollars. Additionally, the police use random roadcheck enforcement year-round.

CounterAttack supports roadcheck enforcement by publicizing the campaigns and by supplying the police with 20 vans to deploy men and equipment. In 1977 when the program began, the vans contained breathalyzer equipment, but court challenges as to the reliability of evidence gathered in the variable environment of the van (i.e., temperature and humidity changes), as well as the difficulty of having a suspect telephone a lawyer before being breathalyzed, have led to the vans being used more as transportation and shelter than as mobile breathalyzers. CounterAttack supplies the police with these vehicles at very little cost to government by refurbishing ambulances that are being retired. That is, instead of being auctioned, ambulances that are in relatively good condition are repaired, painted with the CounterAttack logo, insured by the program and lent to police jurisdictions for their use in drinking driving enforcement and public education. The average cost to government per vehicle for maintenance and insurance is about $3,000 annually and because CounterAttack retains vehicle ownership, the program can ensure that the vehicles are deployed in the most efficient manner.

Additionally, CounterAttack supports the police by supplying them with displays for use in malls, speaker's kits for use in delivering talks at schools and service clubs, and literature, posters and other collateral material for distribution; by giving training seminars; and by hosting yearly conferences to bring together senior officers to discuss current policies and to advise government on problems and solutions in the area of the justice system's response to the crime of driving while impaired.

- *Coast Guard*

At no cost to the program, the Canadian Coast Guard places CounterAttack literature in each "Safe Boating" kit distributed each year to the 50,000 registered boat owners in B.C.. Parenthetically, CounterAttack produces and distributes brochures and posters on impaired boating, a crime that is included in the Criminal Code of Canada sections on impaired driving.

- *Canadian Armed Forces*

Through CounterAttack, the Forces in B.C. have initiated an anti-drinking driving campaign within each base mess.

Private Sector, Service Clubs and other Groups

- *Royal Canadian Legion*

CounterAttack has helped the Legion to promote designated driver and public education programs.

- *Mothers Against Drinking Driving (MADD)*

MADD distributes CounterAttack literature.

- *School Committees*

Through ICBC and the police, approximately 80 percent of the schools in the province have CounterAttack clubs. These groups hold conferences, support the program during roadcheck periods and so on.

- *White Spot Restaurants*

At no cost to the program, White Spot Restaurants offer customers electrostatic window stickers containing the CounterAttack logo, restaurant logo, and the text "Don't drink and drive". While the stickers are free, customers are asked to contribute to a charity for the cost of the sticker, with any additional funds going to the charity. This approach neatly addresses the problem of meeting the cost of the item and making sure no direct profit is gained by the private sector in supporting this government program. Tens of thousands of stickers are distributed annually, and the only involvement on the part of program staff is to approve the editorial content of the promotion.

- *B.C. Taxi Association*

Through CounterAttack, the B.C. Taxi Association has set up their "Roadsafe" taxi voucher program. Vouchers that can be used as cash for taxi rides are sold (usually with product coupons supplied by various companies) through ICBC and, for a small handling fee, private sector outlets. The money, representing the difference between vouchers purchased and vouchers cashed in by the taxi company accepting the voucher as cash, is held in a fund that produces interest. The interest can be used to cover the cost of administration, with any surplus divided among the companies in the taxi association. Overall, this is an ingenious arrangement that can both reduce drinking and driving and create a small profit. On the other hand, there may be still some legal questions in the area of liability to be answered. Nonetheless, it is an excellent example of private sector involvement.

- *Newspapers*

Newspapers often sell advertising space surrounding copy on drinking and driving, supplied by CounterAttack. That is, the program supplies the copy and the newspaper advertising sales staff go to local merchants and obtain paid advertisements to be placed near the copy indicating that the merchant supports CounterAttack. This allows the newspapers to make money and local merchants to show that they are good corporate citizens for very little cost to each merchant.

Further, about one-third of the 3,000 total annual CounterAttack print messages consist of public service announcement (PSA) filler art messages on drinking and driving. That is, when a publication has no copy or paid advertisement, the paste-up artist inserts various sized CounterAttack-supplied messages rather than having blank space. Again, a significant amount of public education is being presented at virtually no cost to the program.

Public Education and Collateral Material Policies

CounterAttack has developed a number of general principles associated with the form and content of public education on the issue of drinking and driving. Some are:

- No material is produced with public funds that could be used by the private sector to reduce the normal costs of doing business. For example, the program would not produce paper coasters with anti-drinking driving messages because bars and other establishments normally supply customers with coasters for drinks. If the program gave establishments these items, the normal cost of doing business for the establishment would be reduced. In turn, this could benefit one private sector establishment over another, or the program could end up as the supplier of free coasters to the entire province. On the other hand, "tent cards" to be placed on tables in drinking establishments, restaurants and so on can get across the message not to drink and drive without changing the normal cost of doing business. CounterAttack's purpose is to reduce drinking and driving, not to subsidize business.

- No excessive violence, hysteria, exaggeration, fear, appeal or moralizing is used in public education messages. Research has shown that extreme and/or fear-inducing messages can have a negative effect on the message recipient, who avoids further contact with the issue rather than risk additional emotional assault. Further, the messages do not try to change entire lifestyles (e.g.,"stop drinking") but rather try to change specific behaviours (e.g., "if you drink, take a taxi or a bus, but don't drive") by giving a positive alternative to drinking and driving.

- CounterAttack messages must be factual and reasonable. In the jargon of social psychology, one can change the cognitive component of an attitude and produce attitude change more easily than by trying to produce change through the affective component. Consequently, the more likely results of drinking and driving, such as denial of insurance coverage and being charged by the police are emphasized over the less likely consequences such as injury or death. When physical trauma is brought up, injury and disfigurement for those in the drinking driver's vehicle is spoken to more often than is, for example, the death of pedestrians hit by drinking drivers.

- CounterAttack messages must be consistent and current. Because it is a provincial program monitored centrally and is based on current research and evaluation, it is relatively easy to achieve these goals. Consequently, it seldom occurs that one CounterAttack community group's facts or statements contradict another's.

Research and Evaluation

Any program attempting to change public attitudes and behaviours must both understand the dynamics of those attitudes and behaviours and monitor same in order to judge the effectiveness of program interventions and initiatives. CounterAttack not only draws on the published literature in the area of traffic safety, but also conducts original research into traffic accident characteristics and epidemiology, driver characteristics, public attitudes, justice system activities and effectiveness and so on.

Data Sources and Research Techniques

- *Accident Reports*

  Through the examination of over 100,000 reported traffic accidents annually, CounterAttack examines accident causes, locations, time and environmental conditions, the demographics of those involved, charges laid and other variables.

  These accident reports (supplied by the Motor Vehicle Branch of the Ministry of Solicitor General) are in computer-readable form and are analyzed to produce regular epidemiological reports broken down by over 200 police jurisdictions as well as to examine particular accident types and configurations in more detail. CounterAttack's casualty accident computer files start in 1977 and are based on police investigations using essentially the same data collection instrument from year to year and location to location. They can therefore be used reliably in timeline and pre-post evaluations.

- *Justice System Data*

  Information on offences and persons charged is supplied by Police Services Branch, Ministry of Solicitor General from the Uniform Crime Report data base compiled by the federal government. Epidemiological reports are distributed by CounterAttack from these data. In addition, Court Services, Ministry of Solicitor General, supplies information on charges and convictions and Corrections Branch, Ministry of Solicitor General, supplies data on prison inmates.

- *Driver Records*

  Data on driver demographics, accident rates and types, and conviction rates and types are supplied in raw, machine-readable form by Motor Vehicle Branch, Ministry of Solicitor General.

- *Roadcheck Data*

  Police throughout the province supply CounterAttack with information on roadcheck enforcement activities, including: number of vehicles stopped, number of roadcheck hours, number of police hours, charges laid, and number of types of accidents during the roadcheck periods.

- *Telephone Surveys*

  CounterAttack evaluates each roadcheck enforcement campaign using pre-campaign and post-campaign telephone surveys of the entire province. These surveys gather information on people's knowledge, attitudes and behaviours regarding drinking and driving, enforcement and other issues in order to evaluate the effects of the campaigns. In addition, regular detailed surveys are undertaken on specific issues.

- *In Depth Studies*

  From time to time, CounterAttack uses focus groups and psychometric tests to study the effectiveness of message form and content.

- *Print Media*

  CounterAttack employs a print media clipping service and codes every article printed in terms of content, size, date and location. In this manner, the general awareness of the public regarding the issue, as reflected in the media, is monitored on a constant basis. In addition, the program sends a monthly selection of the more important articles to senior government officials to keep them informed of any developments in the area.

Conclusion

Drinking and Driving CounterAttack's success in reducing the percentage of drinking and driving casualty traffic accidents can probably be attributed to a number of factors. As a government program it can influence legislation, police activity, broadcast media content, etc., to achieve a very high degree of both public education and justice system activity.

Its continuity since 1977 allows tracking and program evaluation that has resulted in a constant improvement of both the enforcement and general public education aspects of the program. Additionally, the year- round nature of CounterAttack messages and activities ensure that the issue remains constantly in the minds of the general public.

In turn, not only do drinking driving traffic accidents decrease during the twice yearly high visibility police roadcheck campaigns, but the proportion of casualty-producing traffic accidents attributed to alcohol has decreased in each year of the program. Finally, the broad range of associations that the program has forged with Crown corporations, the private sector, service groups and so on has created a publicly controlled program that is primarily supported with non-governmental funds.

HEALTH AND WELFARE CANADA

Rachel Ladouceur

Ms. Ladouceur is the Program Promotions Manager for Health and Welfare Canada

Introduction

There is no question that Canada has a substantial drinking and driving problem. Young people aged 16 to 24 make up 16 percent of Canada's total population, yet they represent 36 percent of those apprehended for driving while impaired, and 70 percent of single-driver (one person in the vehicle) weekend accidents. Most alarmingly, half of all traffic fatalities in this age group are alcohol-related, making impaired driving the number one killer among 16 to 24 year olds.

These sobering statistics reflect a now well established fact: punitive measures do not deter people from driving while impaired. In fact, desired changes in drinking and driving behaviour can only be achieved through a sustained, long-term, comprehensive initiative.

To this end, Health and Welfare Canada and the Department of Justice announced a new joint federal, provincial and territorial initiative. The *Long Term National Program on Impaired Driving* which went into effect in May 1987, is aimed primarily at 16 to 24 year olds through four main areas of activity: driver education; community-based programming; evaluation and research, and public awareness and information. The program will attempt to change the social acceptability of impaired driving behaviour over a 20-year period.

This paper focuses mainly on the social marketing initiative of the public awareness and information component.

Background of the "Play it Smart/Moi, J'ai Toute Ma Tête" Campaigns.

As recently as 15 years ago, the suggestion that marketing could play a role in public health education would have been rejected by health professionals with arguments such as: marketing is the enemy; it is irrelevant to health education and at best, it is a promotional, not an education tool.

Health promoters are now demanding new approaches to health education. Populations are massive. The electronic hypnotism of cinema, radio, and television has taken a major share of public attention and intellectual energy in the industrialized world.

Social marketing with its components of market and consumer research, advertising and promotion (i.e., positioning, creative strategy, message design and testing, media strategy and planning, effectiveness tracking, etc.), and distribution, is an important element of any public health program. There is general consensus that a social marketing program alone cannot be expected to significantly reduce drinking and driving incidents. This is why the social marketing element is only one aspect of the National Impaired Driving Strategy. At the same time, it should be acknowledged that social marketing is an important and essential element of comprehensive programs intended to reach, inform, and influence people.

Based on the belief that prevention begins with awareness, the first major undertaking of the strategy was a national social marketing campaign entitled, "Play It Smart/Moi, J'ai Toute Ma Tête!". The campaign's primary objectives - to heighten public awareness by making information about the issue more accessible, influence behaviour and change attitudes were established.

The national program is guided by a mission statement which is, "to change the norm that 'driving while impaired' is socially acceptable behaviour."

The campaign strategy developed jointly by Health and Welfare Canada and the provincial and territorial governments, acknowledges certain realities: the target group does not perceive drinking and driving as a personal issue, this group doesn't perceive itself at risk; and intellectually this group realizes the consequences but emotionally and developmentally, the personal myth of 'it won't happen to me' is particularly strong.

To develop successful social marketing campaigns, we need to find out how people's social environment affects their attitudes and behaviour. The following statements reflect the attitudes and behaviour prevalent among 16 to 24 years olds. They are twice as likely to have family or friends who drive after drinking. This group has the highest percentage of people who have been passengers of an impaired driver. Younger Canadians are more likely to report having been stopped during a road check. They are more confident about their ability to hold alcohol than are older groups. Young people believe that they can drink five or more drinks before their ability to drive is impaired.

Research conducted in the development of the campaign made some things clear: first, it was important that the tonality of the campaign be objective, simple, hopeful, positive and non-preaching. Second, the messages directed at young people had to create a supportive atmosphere to engender self-esteem, and encourage a healthy lifestyle for the individual as well as for friends. Third, at a later stage of the campaign the role and obligations of passengers were to be introduced.

Hence the theme of the campaign "Play it Smart" symbolizes 'doing the right thing', making appropriate choices and being smart because one cares for one's friends. The logo depicting the beer mug and the steering wheel captures the essence of total disassociation of drinking and driving. Beer is shown as it focuses on the beverage of choice for the target group.

Special Developmental Issues

Two issues require special attention when developing a national social marketing program. The first requires that all 10 provinces and two territorial governments be involved in the development of the program in order to secure their participation in its implementation. The second issue is the legal requirement that all national programs be bilingual. Typically, these two issues mean that French and English federal-provincial working groups be established. In addition, the services of both a French and English advertising agency be contracted to develop separate campaigns to meet different cultural needs and objectives.

Campaign Elements

The nature of the message is a crucial element. Qualitative research (focus groups and in-depth interviews) at various stages was used to help in the development of the creative elements.

Advertising

Television, cinema, and radio advertising is an assured way of reaching young people effectively. Support media such as transit and outdoor advertising can be effective in reinforcing the messages and creating awareness of the campaign.

Two English and French television commercials and radio spots were broadcast nationally during the summer months, a time when the incidence of drinking and driving is highest. Promotional materials (such as buttons, posters, stickers, key chains) were distributed to the target audience.

It is important to note that government sponsored campaigns cannot rely solely on public service announcements. Time and space must be bought against the specific target segments and the purchase can only then be used as leverage to secure public service announcements.

Publications

In order to provide information on drinking and driving, two publications were developed, "12 Lousy Reasons" and "The Choice is Yours". One deals with the hazards of impaired driving for passengers and the other on the importance of personal choices. Over three million copies of both publications were distributed at the community level by provincial and territorial governments.

Special Activities

A special promotion was held with Cineplex-Odeon theatres. The "Party" commercial was shown in over 400 theatres supported by lobby poster displays with coupons offering a free "Play It Smart" key chain and brochure.

The Canadian Tire Corporation promoted the campaign messages by placing joint logos on in-store posters, windshield wipers and antifreeze fluid containers. In-store flyers carried the "Play It Smart" advertisements.

The Canadian Business Forms Distribution Association printed the campaign logo and messages on business forms valued at $30,000,000.

The Canadian Association of Police Chiefs has adopted the logo nationally. It will be used exclusively in all of their drinking and driving initiatives.

The major driving schools in Quebec, "Tecnic" and "Lauzon", have integrated the French commercial in their teaching video. The campaign slogan appears on their fleet of cars. Publications are distributed to all high school students throughout the province of Quebec. An annual Quebec-wide event aimed at youth is being supported by these driving schools and campaign information is handed out to all those who attend.

Water slide resorts and ski areas in Quebec are cooperating in distributing publications and promotional items on drinking and driving.

Health and Welfare and its provincial counterparts in Quebec cooperated with "La Presse", a daily newspaper in Montreal, and with the Quebec Department of Education to produce a series of articles on drinking and driving. The series was printed in booklet form and distributed to every high school student in the province.

Evaluation

The evaluation of the "Play It Smart" campaign is based on research activities that are undertaken to support the National Impaired Driving Strategy - National Survey on Drinking 1988. The main vehicle for assessing the immediate impact of the campaign is a series of national surveys involving young people. These surveys are carried out in successive waves which are timed to coincide with appropriate points in the media buy whenever possible. In each wave a total of approximately 1100 personal interviews involving youth were conducted in the English market.

To date, three survey waves have been completed. Close to 90 percent of those surveyed reported awareness of some form of drinking and driving advertising. In the first wave, almost 30 percent described the "Play It Smart" message when asked to describe these ads. There was a progressive increase in recall until, in Wave III, 75 percent remembered having seen the "Play It Smart" ads.

The "Party" ad was considered to be more interesting than "other ads in general" by 60 percent of those surveyed. The comparable figure for the "Friends" ad was 56 percent.

After seeing either ad, respondents were asked if they were more likely to think about whether they should drink and drive. About three-quarters agreed with the statement. Results for both ads were virtually identical. In addition, about one-half of those respondents who had seen the ads said it was likely they would talk to their friends about the dangers of driving while impaired.

As of March 1988, 96 percent of young people aged 16 to 24 recall having either seen or heard advertisements related to drinking and driving.

It is important to realize that there is a great turnover in this narrow target group, so that the task of reaching 16 to 24 year olds is an ongoing process.

Behavioural Elements

Approximately 10 percent of 16 to 18 year olds and 31 percent of 19 to 24 year olds admitted to having driven after consuming one alcoholic beverage. This incidence seems to be on the decline among the older age group as the percentage has dropped from 40 percent in 1987 to the current 31 percent.

Conclusion

In the National Survey on Drinking and Driving 1988, Canadians considered drinking and driving an important social issue. When asked to rate the importance of impaired driving as compared with eight other social issues, Canadians ranked impaired driving first, followed in order of importance by AIDS, family violence, drug use, juvenile delinquency, unemployment, racism, pornography, and cigarette smoking.

We know that conditions are favourable for the creation of effective intervention programs. Public awareness levels regarding drinking and driving are high, Canadians are concerned about the issue, and they are willing to support the effort. In short, the potential is there; the challenge lies in tapping it.

DESIGNATED DRIVER PROGRAMS: THE PERFECT MIX FOR GREAT OUTINGS

ALBERTA'S DESIGNATED DRIVER PROGRAM

Stella Wilson
Ms. Wilson is the Director of the Impaired Driving Program for the department of the Alberta Solicitor General

Introduction

This paper will detail the designated driver concept and outline the implementation strategies that were used to operationalize a provincial program in Alberta. The paper will also provide an overview of the province-wide program established in Alberta and describe the program's current status and future growth.

Program Description

A review of the available literature indicates that the designated driver program usually operates in licensed restaurants and lounges. One person in a party of two or more is identified as the designated driver and receives non-alcoholic beverages at no cost, for the duration of the group's stay at the establishment. In the event the designated driver requests an alcoholic beverage, all previously received non-alcoholic beverages are charged to the bill.

The licensed establishment may use posters, tent-cards, media advertising or server advice to announce its participation in a designated driver program. Additionally, pins or badges can be used to identify the designated driver in each group.

Jurisdictional Use of Designated Driver Programs

The Department of the Solicitor General began to evaluate existing designated driver programs in June 1988, with the intention of developing a provincial program. An initial evaluation of existing designated driver programs in Alberta as well as other jurisdictions in Canada and the United States was completed in July, 1988. This evaluation indicated that:

- There were several programs operational in Canada and the United States;
- These programs operated on their own without provincial or state coordination; and
- These programs usually targeted licensed establishments.

Program Development

The initial research enabled departmental employees to develop a program proposal that would not only target licensed establishments, but also private house parties and community and service club functions. This multifaceted approach is unique among all other jurisdictions reviewed. This proposal was completed in July 1988.

A working committee consisting of members of the Alberta Restaurant and Foodservices Association (ARFA), the Alberta Hotel Association (AHA), the Alberta Liquor Control Board (ALCB), the Edmonton Federation of Community Leagues, various police authorities, university organizations and departmental employees was established in order to develop an implementation strategy for a provincial designated driver program. It was felt that the involvement and continued support of stakeholders in the service industry and liquor licensing area was imperative to the implementation and ongoing success of Alberta's Designated Driver Program.

A logo specific to this program was developed and approved in March 1989.

Proposed Province Wide Designated Driver Program For Alberta

Concept

- The Designated Driver Program puts the onus on the group to identify a person who will:
    - not drink any alcoholic beverages prior to and during the outing; and,
    - take responsibility for ensuring that the other members of the group arrive home safely;
- One individual in a group (three or more at licensed establishments and two or more at social functions) is identified as the designated driver, prior to any alcohol consumption;
- Once identified, the designated driver is offered non-alcoholic beverages (excluding mocktails) at no cost for the duration of the group's stay at the function;
- Should there be a large number in the group, it may be necessary and appropriate to have more than one designated driver;
- Each designated driver wears a badge which clearly identifies him or her as the designated driver to members of his or her group, hosts and servers.

The Program

Unlike other existing programs, Alberta's multi-faceted Designated Driver Program targets the following:

- *Private House Parties*
  - In a coordinated effort with the ALCB, community interest groups, the police, private sector agencies, corporations and other government agencies, the Department of the Solicitor General has developed print material that is distributed through each ALCB outlet across the province;
  - This material, available at no cost, entitled "The Perfect Mix For Private Parties" outlines the responsibilities of a "Party Host" and a "Party Guest";
  - This promotional material gives party hosts concrete steps to take in order to ensure their event does not contribute to a motor vehicle accident. Some of the example tips provided in the material include serving alternative non-alcoholic beverages, using a key drop and knowing the signs of impairment;
  - This promotional material also assists party goers in preplanning their transportation to and from the party. It provides concrete steps that can be taken to avoid becoming intoxicated, driving impaired or being a passenger in a vehicle driven by an impaired driver.

- *Licensed Establishments*
  - One individual in a group of three or more will be identified as the designated driver, prior to any alcohol consumption;
  - Once identified, the designated driver will be offered non-alcoholic beverages (excluding mocktails) at no cost, for the duration of the group's stay at the establishment;
  - In the event the designated driver consumes an alcoholic beverage or is found to be drinking an alcoholic beverage, all previously received free non-alcoholic beverages will be charged to the group's "tab";
  - Licensed establishments involved in the Designated Driver Program will display the promotional material in order to invite participation in the program.

- *Social Functions*
  - The Designated Driver Program can be used effectively at community hall and service club functions, campus, college and university events, and in the corporate sector during company events and parties;
  - The Designated Driver Program can be used effectively where groups of people gather and alcohol is involved;
  - Facility operators will ensure that they promote the program internally with staff and advise all function organizers of the availability of a Designated Driver Program;
  - Distribution of initial promotional material will be made through the ALCB outlets in the province, at the point of permit requests;
  - Promotional material will also be available through the Federation of Community Leagues (Calgary and Edmonton), service clubs and campus/ university and college groups.

Promotional Material

Promotional material available for licensed establishments and social functions includes:

- The designated driver "code" pocket calendar;
- "Stick on" disposable badges for designated drivers;
- Buttons for servers/hosts;
- Lapel pins;
- Posters;
- Tent cards; and
- Camera-ready artwork of the designated driver logo which can be used to creatively promote the program.

The promotional material listed above is provided in attractive kits to those licensed establishments/ social functions that participate in the Designated Driver Program.

Program Launch

Private House Parties

A designated driver concept for private house parties was developed in late spring 1989. The concept, "The Perfect Mix For Private Parties", outlines the responsibilities of a good party host and a good party guest. It became available in all ALCB outlets in August 1989, and was later placed in all Motor Vehicles Division offices across the province.

Social Functions/Licensed Establishments

The designated driver concept for social functions and licensed establishments utilizes the theme, "Round Up The Party Animals! Have A Safe Safari Home." This theme is used throughout the various print components of this aspect of the Designated Driver Program. The social function and licensed establishment aspect of the program was launched on September 14, 1989, with a news conference, a radio campaign and mass distribution of the print material.

Distribution Plan

Private House Parties

The material is available through all ALCB outlets and Motor Vehicle Division offices.

Social Functions

Promotional material for this aspect of the program is distributed through ALCB outlets in the province when purchasing a liquor permit. Additionally, material is available through the Edmonton Federation of Community Leagues, the Calgary Federation of Communities, campus, university and college groups, and the Department of the Solicitor General.

Licensed Establishments

At the time of the program's launch in September 1989, a kit containing samples of available designated driver promotional material was distributed to every licensed establishment in the province. A detailed distribution plan was also developed as follows:

- Distribution of material for Calgary and Edmonton would be made through the ARFA and AHA offices in those cities;
- In rural locations, a licensed establishment would contact the ARFA or AHA office which would complete an order form and return the form to the establishment. The order form would note the address of either a Motor Vehicle Division office or a Correctional Services Division office closest to the licensed establishment where material could be secured;
- Corporate sponsors have been supplied with various print material components for distribution through their network.

Designated Driver Liaison Coordinator for Licensed Establishments

A joint grant was provided to ARFA and AHA to recruit a liaison coordinator who would promote the program and replenish print material supplies for licensed establishments. This individual began his duties in mid-September and will visit licensed establishments across the province over a one year period of time.

A short term contract with ARFA was also signed in mid-November to hire a liaison coordinator to ensure Calgary licensed establishments were visited and the program utilized, prior to Christmas. This contract expired in January, 1990, and has since been renewed.

Promotional Campaigns

Advertising

- *Radio Campaign*

  A six week radio campaign using the "Party Animal" theme was launched provincially on September 14, 1989, to educate the public about the designated driver concept and promote the use of the program.

- *Billboard Campaign*

  A province-wide billboard campaign using the "Party Animal" theme was launched in mid-November and operated until January, 1990.

- *Other*

  The following promotional campaigns have been organized for the Designated Driver Program:

  - Program Launch - a news conference was held on September 14, 1989, to launch the program;
  - Window Stickers - permanent as well as electrostatic window stickers have been produced and distributed;
  - Lapel Pins - are currently being developed utilizing the "Party Animal" theme. A distribution plan will be established;
  - Recognition Program - an awards program is being established to recognize licensed establishments which participate in the program;
  - Shell Gas Giveaway - in conjunction with one of the Program's major corporate sponsors, Shell, municipal police forces and the Department of the Solicitor General, $5.00 gas certificates were given to designated drivers who went through Checkstops in Calgary, Edmonton, Medicine Hat and Lethbridge. This campaign operated during the 1989 Christmas season;
  - Seasonal Posters - seasonal designated driver posters have been developed and distributed for the Christmas period. Additionally, poster concepts for a summer campaign are being explored.

Current Status

There more than 900 licensed establishments currently participating in Alberta's Designated Driver Program. Acceptance of the program varies from 70 to 90 percent depending on location.

Program Costs

The following are the Designated Driver Program costs, to date:

Private House Parties

"Perfect Mix" Prototype, Art, First and Subsequent Print Runs	$ 26,164

Social Functions/Licensed Establishments

Concept	$ 31,514
First Run - Print Material	76,587
Mailing	3,517
Second, Third Run - Print Material	28,405
News conferences (Calgary/Edmonton)	1,000
Radio Campaign	71,000
Billboard Campaign	24,000
Liaison Coordinator 1	44,000
Liaison Coordinator 2	5,000
Christmas Poster (concept & print)	3,895
Lapel Pins (on order)	7,740
TOTAL	$322,822

Corporate Sponsors

While the Department of the Solicitor General has funded the bulk of this program, corporate sponsors were sought to assist financially with some of the program costs and to enhance the promotional campaigns associated with this program. Financial donations as well as goods and services were provided by Coca-Cola Bottling, Shell Canada Products Limited, Labatt's Alberta Breweries, the Alberta Teachers' Association and the Alberta Motor Association.

In addition to providing financial support, corporate sponsors have assisted in the distribution of program material and the overall promotion of the program in the community.

Future Growth

A marketing plan is being developed to further promote and maintain the program. This plan will use current program resources and develop innovative strategies by which to expand the program. It is hoped that, at the end of the three year period following its implementation, the program will enjoy 80 percent ongoing participation.

Additionally, a survey is planned at the end of the program's first year of operation in order to assess the public's identification, acceptance and use of the program. Adjustments may be made, if necessary, following the results of the survey.

Conclusion

A number of government agencies, corporations, community interest groups, private sector agencies, and police forces have been involved in the development of Alberta's Designated Driver Program because it ensures that with some pre-planning a potential tragedy can be avoided. Everyone supports the idea of people having a great time during their social outings; the Designated Driver Program provides responsible individuals with a means to do so.

A successful Designated Driver Program will ultimately:

- Reduce the incidence of impaired driving;
- Reduce the incidence of motor vehicle accidents and the resulting injuries/property damage; and
- Save lives.

SANTA BARBARA, CALIFORNIA

Maury Kane

Mr. Kane is a Public Affairs Officer for the California Highway Patrol

Overview of the Santa Barbara Area

Santa Barbara, California, is essentially a resort community on the Pacific coast, 145 km north of Los Angeles and 540 km south of San Francisco. The community was discovered, settled and named by Spanish explorers in the 18th century. Santa Barbara rests on a long crescent of land bordered by the Los Padres mountains and the Pacific Ocean. Santa Barbara is a picturesque town with red tile roads, terrazzo walks, rolling lawns and sheltering trees. With the resort atmosphere comes many festive events and innumerable bars and restaurants to promote and support those events.

History of the Santa Barbara Program

Perhaps the most salient feature of life in Santa Barbara is that it represents a social microcosm of the rest of the state, and perhaps the nation, with regard to the consumption of alcohol. In the latter part of 1987, Santa Barbara CHP (California Highway Patrol) Public Affairs Officer Tom Campbell was travelling in the far east when he met a physician from Calgary, Alberta. The doctor was wearing a unique looking lapel pin which displayed what appeared to be two hands and a key. The doctor explained that the pin meant that the wearer was the "Designated Driver".

The physician went on to explain the informal concept, in place at that time, in Calgary. Officer Campbell took copious notes and brought the basic concept back to California. Officer Campbell was most impressed by the pride the doctor took in wearing the pin and explaining the concept.

Upon his return to Santa Barbara, Campbell lobbied the concept amongst his superiors and to his then assistant Public Affairs Officer, Maury Kane. Campbell and Kane set about to turn the designated driver concept into a formal statewide program. Unlike well-funded Designated Driver Programs with corporate sponsors, the Santa Barbara program was to be a grass-roots operation.

The Basic Concept

The goal of the Designated Driver Program is simply to reduce alcohol-related traffic collisions. To that end, the task of the newly formed Santa Barbara Designated Driver Program was to target certain types of establishments likely to produce the impaired and/or drinking driver. To prepare this list of "target establishments" research was conducted by program members. Law enforcement records were examined to determine where arrested people had been drinking prior to their arrest for driving under the influence of alcohol. Newspapers and other promotional outlets were checked to determine which places were offering "Happy Hours" and other "two for one" type incentives. Program members also sought out which establishments in the community were fully licensed and served hard liquor after 7:00 p.m. Once a bar or restaurant met all or most of the aforementioned criteria, they would acquire the title "target establishment".

From a conceptual standpoint, as in other models, when a group of two or more patrons enters a participating establishment/target establishment, the participating establishment will provide complimentary non-alcoholic beverages (and sometimes food) to the designated driver.

TASK: To Find an Effective Model

The designated driver concept is not a new idea. It has been in place formally and informally for years. This was noted in the pre-existing informal plan in Calgary, Alberta. One program examined was the Designated Driver Program utilized by the Orange County (California) chapter of Mothers Against Drunk Driving (MADD). In theory, MADD possessed a well structured and well organized program which could conceivably be transplanted into the Santa Barbara area. However, the Orange County project was not terribly successful in its home territory. The reason was found to be the $200 initiation fee charged to each participating establishment.

Now with a workable composite, Dr. Martin Rickler of the Santa Barbara County Health Education Department, developed a three-phase-developmental and organizational plan for the implementation of the Designated Driver Program.

The Three Phase Plan

Organization

The first priority was to develop a team to further develop and carry this program into the community. The organization is composed of the following:

- *MADD*

  The Santa Barbara County chapter of Mothers Against Drunk Driving was very helpful in facilitating many of the program's needs. They are well-known in most communities and they generally possess well established connections in the restaurant and bar community. Further, as a non-profit organization they were able to deposit and retain funds for the program without incurring tax liability.

- *Community Volunteers*

  A panel of community volunteers, ranging in professions from alcohol/drug program educators to real estate sales people concentrated their efforts to assist the program. The function of the volunteers is to monitor member establishments, assist with fund raising and to provide guidance from their personal area of expertise.

- *Server Training Specialist*

  This individual is obviously a key member of the organization. Once an establishment has been contacted and contracted, this individual goes to work training the restaurant's management and staff. It is imperative that this individual has acquired some formal education in drug and alcohol awareness. This individual must also possess the capability to effectively communicate the program requirements to the management and servers.

- *Law Enforcement Representative*

  In the Santa Barbara model and throughout the State of California this participant has played a significant and pivotal role. This individual should be assigned to community or public relations. Generally the news media gravitates towards these individuals, thereby enhancing and expanding the program's public image. The California Highway Patrol, as a statewide agency, has adopted the Designated Driver Program as a statewide initiative.

Operation

The second or operational phase of the program deals with physically transporting the program into the public arena.

- *Planning Strategy*

  Every community will have its own "personality" regarding the reception of the Designated Driver Program. The entire designated driver committee, at this point, should decide the most effective method to promote the program. In the Santa Barbara scenario, the community volunteers were the most effective members in developing promotional strategies. Initially, local restaurant managers were somewhat reluctant to become involved in the Designated Driver Program. The community volunteers decided to approach the most popular or prestigious establishments. Once these larger hotels or restaurants were on-line, the smaller establishments were more inclined to become involved.

  However, in northern Santa Barbara county, a mere 113 km away, a strange phenomenon began to develop. Restaurant and bar owners and the manager of the town of Santa Maria went to the Santa Maria Office of the California Highway Patrol and instructed the Public Affairs Officer to enter their establishments into the Designated Driver Program. These restaurant owners/managers had heard of the program in Santa Barbara and wanted to duplicate its success.

- *Contact and Contract*

  Once a strategy had been developed, the core members approached the establishments. The centerpiece of the sales pitch is that, "you the establishment owner, can perform an important public service, that of reducing alcohol-related traffic accidents, by becoming a practicing member of the Designated Driver Program."

- *Training and Implementation*

  This function in the Santa Barbara model is performed by the law enforcement representative and server-training specialist. The quality and effectiveness of this training is predicated on the knowledge and background of the instructors. Due to the rapid turn around of employees in this line of work, this training should be, ideally, updated every six months. Participating establishments, at this time, are to be provided with the designated driver promotional and operational materials, i.e., buttons, posters, coasters, cocktail napkins, table tents, etc. (A separate Designated Driver Program training manual, prepared by the author and produced by the California Highway Patrol, is available upon request.)

- *Media Relations*

  By this time, some rather newsworthy events had occurred in the maturation of the program. Virtually all media outlets in the Santa Barbara area were quite excited at the prospect of reporting on the progress and institution of the Designated Driver Program. Media exposure will enhance the spiral of success for the program as participating establishments bask in the limelight and prospective members are encouraged to join.

- *Fundraising*

  With strong corporate and private sponsorship, there is little need for fundraising. However, in the Santa Barbara model operations run on a rather limited budget. Various fundraising events are held throughout the year. The most lucrative event is the "Designated Driver Dinner-Dance" in December. This is a 'taste-of-the-town' affair held in a large room provided by a convention hotel. All of the Designated Driver participating restaurants set up tables around the perimeter of the room with samples of their fare. A little later a dance band begins to play. Many of the participating restaurants use this as an opportunity to host their own Christmas parties.

All of the participants, including the hotel and band(s), provide their goods and services free of charge. This yearly event makes thousands of dollars for the Santa Barbara program.

Stabilization

Stabilization is the third and final phase of program development and implementation. The stabilization phase provides an opportunity for program management to reassess itself and to 'step back' to place the program in perspective for the purposes of an overall evaluation. The two elements which should always be in the forefront are expansion and ongoing training. As the committee members become more experienced, contacting, contracting and implementation becomes a 'well oiled machine' and before long, a major bureaucracy is born.

The natural inclination of the members is to create a comprehensive program which includes every "target establishment" within a given geographical area. In the Santa Barbara model it was discovered that the program can lose overall effectiveness if the committee is over-burdened with an unmanageable caseload.

The Future

In the final analysis, the Designated Driver Program truly belongs to the establishments who put their hearts, minds and money into the concept. As an evolutionary consideration, the Santa Barbara program is now assembling plans to turn the program over to the people to whom it rightfully belongs.

The Office of Traffic Safety in Sacramento, California, was impressed with the effectiveness of the Santa Barbara Program and they elected to fund a two year administrative and training position specifically for Santa Barbara County.

Our goal is to develop a committee of the most prominent and most influential restaurant owners and to place this position at their disposal. Secondly, our goal is to complete and disseminate a comprehensive Designated Driver Program manual for nationwide distribution.

By its very nature, the Designated Driver Program is an effective concept in saving lives. The program's true value lies in its simplicity. By reducing the number of drinking drivers leaving an establishment, we can positively impact the current staggering number of alcohol-related traffic collisions.

SCHOOL PROGRAMS: EARLY EDUCATION OF POTENTIAL HIGH RISK DRIVERS

THE CANADIAN EXPERIENCE

Dr. Evelyn Vingilis

Dr. Vingilis is the Head of the Drinking-Driving Research Unit for the Addiction Research Foundation

Introduction

In North America, Australia, and Europe, many schools are implementing drinking-driving prevention programs.

While drinking-driving components have long formed part of alcohol and drug education programs (Milgram 1975), they are now receiving increasing time in the curricula of high schools, colleges, and universities, and even the primary grades. The interest in school-based alcohol and traffic safety programs seems to be the result of three converging influences:

- The movement for alcohol and drug education in the schools;
- The movement for traffic safety education; and
- The growing awareness of drinking and driving as a major public health problem, particularly among the young (Mann et al. 1986). These programs hold the dual promise of reducing the tragic alcohol crash problem among youth (Mayhew, Warren, Simpson and Haas, 1981; Vegega 1984),

> and of shaping the attitudes and behaviours of new generations of drivers when they are most amenable to influence (Bishop 1973; Organization for Economic Cooperation and Development 1975; Waller 1968).

A large variety of programs have developed, drawing heavily on experience with alcohol and drug education efforts. In a study of 133 drinking and driving prevention programs for youth in the United States, a number of common conceptual orientations were identified, among the most common being increased alternatives (e.g., alcohol-free parties, responsible hosting), improved life skills (e.g., decision-making skills, self-esteem building, values clarification), increased peer pressure resistance skills, and alteration of peer and community norms (Klitzner et al. 1985). Examination of the formats in which these content areas are contained suggest three didactic orientations that they have in common with alcohol and drug education (Mann et al. 1986). The first is the information approach. According to this approach, provision of the relevant information will lead to appropriate changes in knowledge, attitude, and behaviour. Such programs involve traditional classroom techniques including lectures and audiovisual presentations. The second approach considers effective processes as important links to behavioural change. These programs either seek to arouse effect, such as fear, through presentations of accident scenes, etc., or to stimulate effective involvement through student participation, values, clarification, and analysis of decision-making processes. The third approach employs one of the variants of learning theory as a basis for program development. These programs employ principles derived from learning theory to provide the skills and responses necessary to avoid drinking and driving (Braucht and Braucht 1984; Goodstadt 1978; Durell and Bukoski 1984). Although these three orientations seem to describe well the programs that have been evaluated, it should be noted much overlap occurs. Thus, for example, effect-based and behaviour-based programs provide information as well (e.g., McKnight and McPherson 1986).

Information-based Programs

Three studies have examined the impact on students of information-based programs. Turnauer (1973) found that exposure to an information program had no effect on attitudes immediately following the program or three weeks later when compared to controls. Jenkins (1970) compared the effects of a traditional lecture-oriented information program with an enriched information program supplemented with audiovisual aids, and found that the enriched program resulted in significantly greater posttest knowledge scores than did the traditional program. Hames and Petrucelli (1980) examined the impact of a 3 1/2 minute informational session immediately following the film and after a follow-up of four months. When compared to a randomly chosen control group, individuals who saw the film scored significantly higher on posttest and follow-up knowledge measures, particularly if a "reinforcing" test was given immediately after the film.

Effect-based Programs

A number of studies have examined the impact of effect-based (in particular, effective involvement) programs. Turnauer (1973), in the previously described study, also included an effective involvement program. The effective involvement program, but not the information program or the control program, had a significant positive effect on attitudes immediately following the program and three weeks later. Subsequently, several studies have replicated the finding that these types of programs have positive effects on knowledge and attitude measures immediately following the program (Malfetti, Simon, and Homer 1977; McKnight, Preusser, Psotka, Katz, and Edwards 1979; Masten 1979; Albert and Simpson 1985). One study has found that these benefits are maintained over an eight-week follow-up interval (Malfetti et al. 1977), while another found no differences between groups after sixteen weeks (McKnight et al. 1979).

Only one study has examined the impact of effective arousal procedures. Kohn, Goodstadt, Cook, Sheppart, and Chan (1982) compared the effects of a twenty-minute drinking-driving film in which effective arousal (threat) had been manipulated (low, medium, and high) through depicting varying degrees of the consequences of an accident. Students were randomly assigned to one of the three threat conditions or a control condition. All three threat conditions had a positive effect on knowledge immediately following the film but not six months later. In addition, the low and high threat conditions had significant negative effects on attitudes immediately following the film, that is, more permissive attitudes to impaired driving.

Behaviour-based Programs

One study has examined the impact of a behaviour-based program. McKnight and McPherson (1986) developed a nine-hour program designed to teach students to intervene in the drinking-driving behaviour of peers, and compared its effects to those of an affective involvement program. Both programs had a significant positive impact on knowledge immediately and up to between two and six months later. As well, both programs had a positive impact on self-reported intervention behaviours immediately, but only the students in the behavioural program maintained these gains over the follow-up interval.

Summary of Effectiveness

It seems that nearly all programs evaluated so far have beneficial effects on knowledge or attitudes, at least in the short term. However, at least for some programs, these effects seem to dissipate with time. Although only a small number of studies permit comparisons of programs based on different orientations, the literature to this point suggests that behaviour-based programs may have the greatest net positive effects, followed by effective involvement programs, informational programs, and affective arousal programs, in that order. Thus, the results reported so far are very encouraging. However, it is important to point out that no information is available on the ultimate test of efficacy, the impact these programs have on the actual drinking-driving behaviour of the participants. Future directions of research should be to assess actual subsequent behaviours of individuals receiving education programs in relation to individuals who do not so that we are able to assess their true impact.

References

Albert, W.G. and Simpson, R.I. (1985). Evaluation of an Educational Program for the Prevention of Impaired Driving Among Grade 11 Students. Journal of Drug Education 15: 57-71.

Bishop, R.W. (1973). Improving Teacher Competency Related to the Alcohol and Traffic Safety Topic. Journal of Traffic Safety Education, 20: 11-13.

Braucht, G.N. and Braucht, B. (1984). Prevention of Problem Drinking Among Youth. Evaluation of Educational Strategies. In P. Miller and T. Nirenberg (eds.) Prevention of Alcohol Abuse (pp. 253-279). New York: Plenum Press.

Durell, J., and Bukoski, W. (1984). Preventing Substance Abuse: The State of the Art. Public Health Reports 99: 23-31.

Goodstadt, M.S. (1978). Alcohol and Drug Education: Models and Outcomes. Health Education Monographs 6: 263-279.

Hames, L.N., and Petrucelli, E. (1980). A Plan for Influencing Teenage Drinking Drivers. In L. Goldberg (ed.) Alcohol, Drugs, and Traffic Safety, Volume 3 (pp. 1414-1428). Stockholm: Almqvist and Wiksell.

Jenkins, J.T. (1970). An Evaluation Investigation Concerned with Teaching Selected Concepts Related to Alcohol and Traffic Involvement. Master's Thesis, Southern Illinois University.

Klitzner, M., Blasinski, M., Marshall, K. and Paquet, U. (1985). Determinants of Youth Attitudes and Skills Towards Which Drinking/Driving Prevention Programs Should Be Directed. Volume 1: The State of the Art in Youth DWI Prevention Programs. Washington, D.C.: U.S. Department of Transportation.

Kohn, P.M., Goodstadt, M.S., Cook, G.M., Sheppard, M. and Chan, G. (1982). Ineffectiveness of Threat Appeals About Drinking and Driving. Accident Analysis and Prevention 14: 457-464.

Malfetti, J.L., Simon, K.J. and Homer, M.M. (1977). Development of a Junior High School Module in Alcohol Education and Traffic Safety. New York: Teachers College, Columbia University.

Mann, R.E. Vingilis, E.R., Leigh, G., Anglin, L. and Blefgen, H. (1986). School-Based Programmes for the Prevention of Drinking and Driving: Issues and Results. Accident Analysis and Prevention 18: 325-338.

Master, F.L. (1979). The Effect of a Three-Day Minicourse on Knowledge and Attitudes about Drinking and Driving of High School Driver Education Students. Ph.D. thesis, University of Missouri, Kansas City.

Mayhew, D.R., Warren, R.A., Simpson, H.M. and Haas, G.C. (1981). Young Driver Accidents: Magnitude and Characteristics of the Problem. Ottawa: Traffic Injury Research Foundation of Canada.

McKnight, A.J. and McPherson, K. (1986). Evaluation of Peer Intervention Training for High School Alcohol Safety Education. Accident Analysis and Prevention, 18: 339-347.

McKnight, A.J., Preusser, D.F., Psotka, J., Katz, D.B. and Edwards, J.M. (1979). Youth Alcohol Safety Education Criteria Development. Washington, D.C.: U.S. Department of Transportation.

Milgram, G.G. (1975). A Descriptive Analysis of Alcohol Education Materials. Journal of Studies on Alcohol 36: 416-421.

Organization for Economic Cooperation and Development (1975). Young Driver Accidents. Paris: OECD Road Research Group. Pacific Institute for Research and Evaluation. 1985. The California Driving Under The Influence First Offender Program: Directory of Providers. Walnut Creek, CA: Pacific Institute for Research and Evaluation.

Turnauer, M.S. (1973). A Comparison of High School Driver Education Student's Attitudes as Measured by the Mann Inventory and Vincent Attitude Scale After Receiving Two Types of Alcohol Instruction at Selected Illinois High Schools. Ph.D. thesis, Southern Illinois University.

Vegega, M.E. (1984). Deterring Drinking-Driving Among Youth. Some Research Needs. Paper Presented at the Annual Convention of the America Psychological Association, Toronto.

Waller, J.A. (1968). Suggestions for Educational Programs About Alcohol and Highway Safety. Traffic Safety Research Review 68: 66-70.

THE U.S. EXPERIENCE: INTO A SYSTEMWIDE COMMUNITY PROGRAM

James B. Wright

Mr. Wright is a Youth Coordinator for the Office of Alcohol Programs at the National Highway Traffic Safety Administration (United States)

In any discussion of prevention measures to be employed in the effort to reduce impaired driving by young people, K through 12, education is invariably the first suggestion: "You've got to reach kids early - before it's too late." "Education is the key to any prevention program." "You have to make young people aware of the dangers involved in drinking and other drug use." These are the statements we have heard countless times. In fact, this paper will discuss recommendations made by various groups in support of these statements.

Education is the one almost universally accepted notion among many to address the problem of youth drinking and driving. In fact, it is almost heresy to suggest otherwise: that educating our young people to the dangers of drug use and impaired driving has received an inordinate amount of attention compared to other countermeasures such as enforcement, adjudication, workplace policies, or even student-based activism. Yet for all the belief in the effectiveness of the education approach, very little is available in the research to indicate that education programs alone work. Some studies indicate that some drug education programs have actually increased the incidence of use. Be that as it may, we all have the intuitive feeling that education is important, that it works and that it is a necessary ingredient to any prevention program.

It is interesting to note the difference in dealing with adults and young people in devising drinking-driving programs. Enforcement crackdowns and "get tough" sanctioning programs always initiate an adult countermeasure program. Prevention activities start after enforcement has focussed the attention of drinking drivers. As a rule, prevention is tried first with the youth population and is sometimes the only strategy attempted. Enforcement may be attempted but is seldom effective or long-lasting. Witness the low arrest rates of juveniles for DWI compared to adults, in contrast to their over-involvement in alcohol-related fatal crashes. Also note the increasing involvement of police in education programs in the schools, such as the DARE program, begun in Los Angeles and now widespread in the U.S.. For the youth population, education is stressed over punitive approaches.

Those of us who work in the prevention of impaired driving and drug use, particularly as it applies to young people, have been fortunate to have a number of prestigious national forums in the U.S. address these issues during the past few years and make specific recommendations for federal, state and local action. Reports on these forums include The White House Conference For A Drug Free America - Final Report (June 1988), Youth Driving Without Impairment, report on the Youth Impaired Driving Public Hearings by the National Commission Against Drunk Driving (December 1988), the Surgeon General's Workshop on Drunk Driving - Proceedings (December 1988) and the Forum on Youth Traffic Safety Initiatives - Proceedings (April 1990). Mothers Against Drunk Driving (MADD) is also in the process of developing a youth compendium of priority initiatives. All of these reports stressed the importance of education for youth and offered specific recommendations. This paper will discuss these recommendations and explore how they should be incorporated into a wider, systemwide effort to increase the probability of success and to avoid the existing penchant to implement singular, education-oriented approaches.

Recommendations and findings from the above mentioned reports have several common themes. The first and most obvious education recommendation is tersely stated in the Surgeon General's Report:

> *Encourage comprehensive school-based K-12 alcohol and other drug abuse education and educator training programs of proven efficacy. (Rec. I-10)*

This recommendation is accompanied with the suggestion that federal agencies should award several long term contracts to evaluate educational strategies and teacher-training efforts. Additionally, the report recommended:

> *Make classroom instruction on alcohol use, other drug use, and impaired driving mandatory for grades K-12; develop curriculum guidelines for each grade level. (Rec. I-17)*

This recommendation closely endorsed the National Commission Against Drunk Driving (NCADD) recommendations which stated:

> *States should require alcohol/drug education programs to be fully implemented in all school districts. Education should begin at an early age. Curriculum standards should be set for each grade, K-12. Alcohol/other drug curricula should be identified which meet these standards. (School Responsibilities Rec. #1)*

The NCADD also supported effective teacher training and selection:

> *Those designated to teach alcohol and other drug curricula should:*
> - *Be good role models;*
> - *Be trusted by students;*
> - *Be adept at using a variety of teaching strategies; and*
> - *Want to teach the subject.*
>
> *Teachers of alcohol and other drug curricula should receive special inservice training. (School Responsibilities Rec. #5)*

The recommendations from the White House Conference took the following form:

> - *Chief State school officers and State boards of education must ensure that textbooks, curricula, and other materials on alcohol and drugs are accurate and current, that they clearly and consistently carry a 'no use' message, and that they integrate education about illicit drugs and alcohol into the existing school curriculum from kindergarten through college. (Education Rec. #4)*
>
> - *States should require all teachers to be knowledgeable about drug- and alcohol-related issues for teacher certification. (Education Rec. #7)*

Youth traffic safety coordinators from most states attended the Forum on Youth Traffic Safety Initiatives at Georgetown University during the summer of 1989. The proceedings from this Forum contained the following recommendation under "School-Based and Extra-Curricular Initiatives":

> *By 1995, each state and U.S. territory will mandate K-12 traffic safety education as*

> *part of a comprehensive health education program.*

The participants of the Forum recommended that this education program include alcohol and other drug education, traffic safety, school bus safety, occupant protection, pedestrian safety, and bicycle and motorcycle education. Teacher training as well as parent and community involvement should be incorporated into this program.

Clearly, the importance of education is well documented in all of these reports. Education should begin early and last through the college years. There should be guidelines set on what should be taught at each grade level and we should evaluate in order to assess what is taught is really making a difference in knowledge, attitude and/or behavior. There should be periodic student surveys to assess whether knowledge, attitudes and behavior are changing. Teachers who will teach this subject matter should be carefully selected and trained. This may be the most important of these recommendations since even a poor curriculum can come alive with a good teacher. Conversely, a poorly selected teacher (i.e., one who is not enthusiastic about teaching the subject, is not trusted, is not a good role model, or does not have the skills to make this subject interesting) will destroy the best of curricula.

There are many examples of techniques used by schools and communities to enhance alcohol, other drug and impaired driving subject matter. As was previously mentioned, use of specially trained police officers in the grade schools has shown particular promise. Not only have students responded favorably but participating police have developed a renewed enthusiasm for preventing alcohol and other drug use and enforcing the law. Judges have been particularly effective in addressing driver education and other classes dealing with the subject of alcohol and other drug use. A message from the sitting judge that young people found guilty in his or her court of drinking and driving (or sometimes just drinking) will have their licences suspended has a strong impact on students.

This involvement of other "system" players in the classroom brings us back to the importance of viewing education as a critical part, but just one part, of a coordinated, systemwide approach to preventing alcohol and other drug use and impaired driving by young people. The message from the classroom can be clearly stated, factually and forcefully, but if society's disapproval of drinking and impaired driving is not evident by law enforcement methods by police, courts' adjudication of offenders, policies in the workplace, or by the way parents are establishing guidelines and consequences, then students learn a much stronger lesson that this behavior is acceptable.

What changes first, attitudes or behavior? The traditional notion is that we provide factual information which will lead to attitudinal changes which will eventually cause a change in behavior. Some experts believe the opposite: that if behavioral changes are forced through tough laws and policies strictly enforced in the work place and schools, then attitudes, reinforced by education, will gradually coincide with behavior. Which theory is the more reliable on which to base our efforts? To hedge our bets we should take advantage of both theories and work simultaneously to change both attitudes and behavior. We work on education programs which will increase the knowledge and skill base of young people while making sure that we coordinate efforts with the work place, police, parents and the courts to ensure social and legal consequences for those young people who ignore the prevention message.

This community wide or systemwide approach is fully endorsed by the groups studying the problem. The White House Conference makes the following recommendation:

> *Schools must be an active part of communitywide efforts to end the use of illegal drugs. (Education Recommendation #2)*

The National Commission is more expansive, stating:

> *All elements of the community must be coordinated in a system-wide approach to share resources and support each other in responding to alcohol, drugs and impaired driving problems among youth. All elements must agree upon and communicate the single message that underage drinking, illegal drug use and impaired driving are unlawful, unhealthy and unacceptable. (Community Responsibilities, Rec. #1)*

The Surgeon General's report states:

> *Support community involvement through proven strategies and programs. (Recommendation 1-6)*

The Youth Forum participants made the following recommendations:

- *By 1993, 50 percent of all U.S. counties will establish community-based task forces to address youth traffic safety issues. (Community-Based Initiatives - Rec. #1)*

- *By 1995, 50 percent of all U.S. counties will conduct a youth traffic safety needs assessment, develop a comprehensive plan based on this assessment, and begin implementation of the plan (Community-Based Initiatives - Rec. #2)*

These recommendations recognize the need to organize community decision-makers and develop a plan that coordinates prevention and deterrence activities. The superintendent of schools, for example, could coordinate what is being taught in the schools with actions that the community at large is taking to reduce the problem. To encourage systemwide community organization, NHTSA has developed a model to guide its own program activities and that of communities dealing with the youth impaired driving problem. This "Youth Model" is comprised of nine components:

- *School Based* - encompasses both curricular and non-curricular activities including: formal classroom instruction for students from kindergarten to college that addresses alcohol/drug use and impaired driving; school intervention programs designed to address the needs of individual youth with substance abuse problems; teacher training; and school policies.

- *Extracurricular* - activities involving students which often occur in a school setting but which are outside the curriculum. Examples include student safety groups, summer camps, statewide conferences and *alcohol-free events.*

- *Community Based* - grass roots efforts where young people and adults work together to promote community awareness and activities. This area focuses on the role of parents and the actions that they can take both privately in the home and publicly in citizen groups. It encompasses the activities of activist groups, churches, civic groups and other community organizations.

- *Work-Based* - activities undertaken in the workplace or sponsored by the private sector. These activities include: informational activities for young employees; company policies prohibiting the use of alcohol and other drugs during work hours; substance abuse assistance for employees; support for community programs directed at young people; and efforts by retail vendors to stop the sale of alcohol to underage youth.

- *Enforcement* - police or alcohol beverage control agency programs designed to enforce minimum drinking age and impaired driving laws.

- *Licencing* - primarily state programs, licencing encompasses: provisional licencing for youth; licencing sanctions for youth impaired driving; measures to combat the manufacture and use of fraudulent forms of identification and; other programs dealing with the licensure of young drivers.

- *Adjudication* - activities in which judges or prosecutors play a central role. These include strategies for processing, sanctioning and rehabilitating youthful offenders; programs that provide information or instruction to judges or prosecutors on the problem of youth impaired driving; and activities outside the court in which the judge or prosecutor assumes a leadership role to affect change in the community.

- *Supervision* - programs established for *youthful offenders after they have been adjudicated. These include screening for drug and alcohol problems, intake, probation, education programs, treatment alternatives and case management.*

- *Legislation* - laws and policies directed at reducing impaired driving and the use of alcohol and other drugs by youth.

Although the NHTSA youth program attempts to be active in all of these model elements our primary efforts have been to assist communities in coordinating and activating these elements. NHTSA activity has taken the form of demonstration sites, model planning processes, recommended strategies and programs, assessment forms and techniques, and materials and conferences for youth coordinators. K through 12 education and other school-based activities are integral parts of this program. However, it is vital that school-based programs be promoted as one part of the systemwide effort. "Learning" is critical in preventing youthful alcohol-related crashes. However, most learning about the issues surrounding alcohol and other drug use occurs on the streets, in the courts and at home. The same clear, consistent message should be sent from all community sectors: that alcohol and other drug use is unhealthy, illegal and dangerous and will not be tolerated by the schools, police, courts, etc. Otherwise the opposite message, a powerful message from the media, advertising, peers and even some parents that alcohol use in particular is tolerated, and even encouraged, will continue to be the message that is heard by young people.

DRIVE ALIVE: A NEW LOOK AT DRINKING, DRIVING AND TEENS

Leona Peter

Ms. Peter is the Supervisor of the Youth Program Team at the Alberta Alcohol and Drug Abuse Commission

The Alberta Alcohol and Drug Abuse Commission (A.A.D.A.C.) has been providing treatment services in Alberta for almost 40 years. Prevention programming has been going on for about 20 years. In 1981 the decision was made to develop and implement a primary prevention program targeting young people aged 12 to 17 years. The goal was to assist young people in developing attitudes and behaviors which preclude the abuse of drugs. This prevention campaign has a health promotion focus, with themes such as: "Make the Most of a Good Thing. Make the Most of You", "Things Keep Getting Better and Better When You Believe in Yourself", "You're More than Another Person, You're the Person Someone Else Wants to Be", "We'll Get By With a Little Help From Our Friends", and more recently "It's Your Time, It's Your Turn". The campaign is designed to assist teens in developing social competence, positive peer influence, independence, and role modelling. A multi-media approach is taken, with television and radio commercials, a teen magazine "Zoot Capri", posters, and pamphlets for teens. Funding is provided for community and theatre projects in which teens are directly involved in all aspects of the project. Another large component of this campaign is the development, publication and distribution of resource materials for use by teachers, youth leaders, and other people who work with teens. Alberta Education introduced drug and alcohol education into the Elementary Health Curriculum (grades 4, 5, 6) in 1983, the Junior High Health and Personal Life Skills Curriculum (grades 7 and 8) in 1986 and in 1989 the Career and Life Management 20 curriculum was instituted at the high school level. A.A.D.A.C. has produced curriculum-based drug education resources for use in Alberta elementary, junior high and high school. "Drive Alive" is the resource designed for use in high school. The overall objectives of "Drive Alive" are to decrease the rate of teens driving while impaired and riding with an impaired driver. Key strategies in the prevention of impaired driving among adolescents involve assisting teens in:

- Pursuing adolescent developmental needs and interests in ways that are not hazardous to themselves or to others;
- Finding acceptable and workable options for avoiding dangerous situations;
- Planning, decision making and commitment in advance of high-risk situations;
- Understanding and coping with the social influences that affect their actions; and
- Eliminating attitudes and false beliefs that support or encourage impaired driving.

With these issues in mind, the "Drive Alive" Teacher's Resource includes activities for teens that give them accurate information, help them to understand social influences, get them to think about their independence and how to express it, and help them to formulate plans and commitments to ensure their safety. In addition, the resource uses approaches that involve teens in actively exploring the issues and their own thoughts and actions. The process can help teens to develop the confidence and the abilities they will need to constructively take control of their lives. For teens who feel the prevention of impaired driving is worth their time and energies, this resource also includes activities for organizing and implementing a special program for their school or community. A video "Making a Difference" shows how Alberta teens have already made important contributions, and greatly benefited themselves in the process. The Resource Guide for Parent Groups provides parents with some insights into the circumstances their teenagers face related to drinking and driving. It suggests actions that parents may take to help their teens avoid this very real and serious problem. "Drive Alive" may be integrated into several existing high school courses:

- Career and Life Management (CALM) in the Well Being, Self Management and Relationships Themes;
- Driver Education;
- Sociology;
- Home Economics;
- Health Services; and
- Other "issues" related classes.

It may also be used at a "teachable moment". Teachers may decide to address this topic around a time of year when drinking functions are at a peak such as Christmas or graduation. Student organizations such as Peer Support or Student Council may wish to develop their own school project. Parent Advisory Councils will find the information and activities in the Parent Section of "Drive Alive" helpful for use in their groups. The teen program is divided into five sections and planned for 13 hours of instruction, but it can be adapted to suit varying program times. Because "Drive Alive" can be taught in any sequence and in any combination, it is possible to plan the program to fit specific times and specific needs. The five sections for teens are as follows:

Section 1 - The Real Issues

- Teen Goals and Interests
- Drinking and Driving - Where do they fit?
- Personal Reflections

Section 2 - The Effects of Alcohol and Drugs on Driving

- What is Alcohol and How Does the Body Process It?
- The Effects of Alcohol and Drugs on Driving
- Safe Driving Brainstorm
- Myths
- Blood Alcohol Concentration

Section 3 - Impaired Driving - The Issues, the Law, Insurance

- Facing the Facts
- Points of View
- Advocacy Positions

Section 4 - Planning and Decision Making

- Making Decisions and Advance Plans
- Saying "No" to Drinking Drivers
- Getting Home Safely
- Developing Contracts

Section 5 - Action on Impaired Driving

- Making a Difference
- Taking Action

Teachers do not need to be experts on alcohol and drugs to teach "Drive Alive". All background information needed is included in the resource guide. More important is the approach to teaching that is taken. When students are challenged to examine their own attitudes and encouraged to explore alternatives and tactics for handling difficult situations, a supportive learning environment is essential. Efforts should be made to set an atmosphere of trust and acceptance where an open exchange of ideas can take place without fear of judgement or ridicule.

"Drive Alive" was produced by A.A.D.A.C. in the fall of 1988. Follow-up and evaluation of this specific package has not yet been completed. It is, however, encouraging to note that research by A.A.D.A.C. indicates that there has been a steady decline in consumption of alcohol by Alberta teens since 1981.

SAFE GRAD PROGRAMS: STRATEGIES FOR SUCCESSFUL HIGH SCHOOL GRADUATION PARTIES

SANTA BARBARA

Penny Jenkins

Ms. Jenkins is the Executive Director of the Santa Barbara Council on Alcoholism and Drug Abuse

The Santa Barbara community is keenly aware of the problems associated with drinking and driving, especially by students, and most especially on the night of graduation from high school. The five high schools in the greater Santa Barbara area this year will graduate some 1500 students. Our goal is to ensure that none of these students are involved in an alcohol or drug-related traffic accident.

In 1987 the local office of the California Highway Patrol coordinated the production of "Sober Graduation... Make It To Your Future," a videotape produced by FMS Productions of Santa Barbara. In this effort we were generously assisted by Mr. Kenny Loggins, Mr. John Travolta, and the University of California at Santa Barbara.

It would be misleading to give you the impression that successful graduation night parties are a one-time affair that occur only on grad night. In Santa Barbara we work all year long to develop a series of events that take place during sober graduation month. Year-round, our Friday Night Live/Safe Rides Program involves students from UCSB and high school students in assuring that no student has to get behind the wheel of a car while intoxicated. High school students work with local merchants, parents and members of the PTA to hold assemblies and other events to make the realities of drunk driving known to each and every student. Florists, limousine rental services and the like hand out printed cards that say, "Sober Graduation... Make It To Your Future."

The key to a successful sober graduation program has to be student participation. The process is detailed in several publications, but unless the students believe that they are a part of the process, and have responsibility for its success, then there is a very real danger of sober graduation becoming something less than "cool". It is not enough for a sober grad night to be the right thing to do. It must be the right thing to do for each graduating class. Keep in mind that what worked last year may not be appropriate for this year's seniors. Use the literature as resource material, but tailor it for your own students and your own communities.

Our public high schools provide graduation night festivities at Disneyland. Here arise questions of cost to the student and whether or not Disneyland is the "in" thing to do, but the majority of graduating seniors opt for the program. The local Elks Club hosts sober graduation parties after each of the public high school Prom Night parties. This year the seniors will be drawing for a free car donated by the local Toyota car dealership.

Start early, involve the students, enlist community support, and get information on what is working in other communities. You cannot afford to do otherwise.

THE "HEROES" PROGRAM: A MULTI-MEDIA INJURY PREVENTION PROGRAM FOR HIGH SCHOOL STUDENTS

Dr. Louis Francescutti

Dr. Francescutti is the Director of the Injury Awareness Prevention Centre for the University of Alberta Hospitals

Background

HEROES - A Program for Teenagers is targeted to the senior and junior high school age groups. Its objective is to prevent trauma by increasing awareness about the reality of injuries and the possibility of their prevention, thus deterring the high-risk behaviour so prevalent among this age group. HEROES was developed by the Injury Awareness and Prevention Centre at the University of Alberta Hospitals in response to the high incidence of trauma among patients, 15 to 19 years old seen in our hospitals, especially trauma resulting in permanent injury to the head or spinal cord. In Alberta, 68 cases of traumatic spinal-cord injury occurred in 1984, 79 in 1985, 66 in 1986, 64 in 1987 and 61 in 1988 (Canadian Paraplegic Association). Along with these severe spinal-cord injuries there were even greater numbers of less severe ones.

Precise statistics on the nature and incidence of traumatic brain injury or acquired brain damage in the province of Alberta are not available. Data on incidence are collected from sources such as hospital records, Alberta Health Injury Statistics, and estimates based on other studies in other regions. According to Alberta Health Injury Statistics regarding the nature of an injury for (the 12 months) 1986 to 1987, there were 1860 skull fractures, 2967 intracranial injuries, 1284 open wounds of the head, neck or trunk and 101 crushing injuries, for a total of 6212 injuries. These numbers represent only the primary site of injury, and where head injuries are not the primary injury they may not even be included in the data. Since the available statistics do not represent those of the entire province and many cases are not reported as a head injury in medical records, it is evident there are a significant number of brain-injured individuals in the province of Alberta and that the numbers are substantial.(1)

The focus of HEROES is mainly on deterring the behaviour that puts teens at high risk for head and spinal-cord injury. Its aim is to make teens more conscious of safety in general.

At the First World Conference on Accident and Injury Prevention, held in September 1989 in Stockholm, Sweden, it was estimated that, world-wide, the financial cost of injury, direct and indirect, totals $5500 billion US. In this province, "it is estimated that injuries are costing the Alberta economy (health care system) over 2 billion dollars annually."(2) The medical cost for treatment and rehabilitation of just one person with a spinal-cord injury can run to over $300,000 dollars in the first year and, of course, it is impossible to put a dollar amount on the psychological and social devastation the survivors suffer. Furthermore, most of these patients are in the prime of life - the number of years of life expectancy lost due to injury exceeds that for cancer and heart disease combined.(3)

A leading cause of head and spinal-cord injury is motor vehicle collisions. In their report of these statistics for the province, Alberta Transportation and Utilities reported that 464 people were killed and 18,777 injured as a result of 110,264 traffic incidents in 1988.

In 1987, over 40 percent of the 64 persons rendered paraplegic or quadriplegic in Alberta had suffered the injury in a motor vehicle or motorcycle collision. In 1988, this figure was 42.6 percent of the 61 new spinal-cord injuries.(4) Motor vehicle collisions are the leading and increasing cause of death among Canadian males and females aged 15 to 19 years. Alberta Vital Statistics reported 72 motor vehicle-related deaths among them in 1987, and 81 in 1988. In Alberta, 5966 admissions to hospitals resulted from "traffic injuries" in the fiscal year 1986-87; the highest rates occurred among 15 to 24 year-olds, who accounted for 37 percent of the admissions and 30 percent of those that terminated in death.(5) When death doesn't result, a high percentage of casualties in this young age group are more severe than among older drivers.

A significant percentage of crashes involved alcohol (at least 26 percent), and Alberta males aged 18 to 21 were most likely to have been involved in these.(5) In 1988, Alberta Transportation and Utilities reported: "Of the drivers involved in injury collisions, 11.3 percent had consumed alcohol before the crash, compared (with) 29.7 percent in fatal collisions."(5) This clearly shows that the severity of the collision increases as the involvement of alcohol increases.

Other circumstances in which head and spinal-cord injuries commonly occur are industry and agriculture, the home, and recreational activities (diving, skiing, and other sports; a large percentage of these injuries occur among adolescents). Falls are also a leading cause of these injuries, particularly among the very young and elderly. Deaths with "accident" as the stated cause among Albertans aged 15 to 19 years totalled 139 in 1987 and 140 in 1988;(6) again, extrapolation to permanent impairment not resulting in death yields high figures.

Program Description

HEROES - A Program for Teenagers is a dynamic one-hour multi-media educational presentation. The intervention is loosely based on similar programs in Florida and Missouri that have received widespread acclaim for their success in changing teenagers' attitudes to actions and behaviour that put them at high risk for injury.

The presentation, now being finalized, consists of the following components:

- An opening quadraphonic and six slide projector segment that presents visual images of teens participating in common activities, interspersed with scenes of trauma. The message is that serious injury can happen to any teen in many ordinary situations if no precautions are taken;
- A talk by a person who has suffered a head or spinal-cord injury, who recounts the emotional, physical, and social consequences of their injury. A brief question-and-answer session follows;
- A short demonstration of situations that commonly result in injury, and suggestions on how to avoid them: i.e., wearing a seatbelt, not drinking and driving, observing precautions for sports (e.g., checking the depth of water before diving), wearing a helmet, and observing safety measures at the worksite;
- This is followed by a demonstration by paramedics and a review of what to do when an injury occurs, by a person trained in basic first aid;
- The closing segment utilizes 18 slide projectors and re-emphasizes the prevention of injury. The audience (students) are shown scenarios that promote the following safety messages:
  - Buckle Up
  - Drive Sober
  - Look First
  - Wear The Gear
  - Get Trained
- The program then ends with the soundtrack "While Heroes Dance" and a powerful yet simple message that it is their choice to reduce injury to themselves and their friends.

HEROES and these five key prevention messages are backed-up by other activities at the school (e.g., sweatshirts, posters, buttons, certificates). Follow-up activities such as interactive videodisc simulation programs are being developed to reinforce the safety message.

Modified audiovisual programs promoting the HEROES concept have been tested on large audiences of high school students throughout Alberta (including Harry Ainley Composite and WP Wagner High Schools in Edmonton, and Coronation School in Coronation), and the People Against Impaired Drivers - Accept the Challenge Conference in Edmonton on February 24, 1989.

The vast majority of teenagers surveyed have agreed that this type of program will strongly influence and have a lasting effect on their attitude and behaviour in regard to injury prevention. HEROES talks to teens on their level and in their language - extensive research into programs aimed at preventing injury, mostly in the United States, has gone into targeting the presentation to achieve this among Alberta teenagers. In addition, the HEROES concept and the design of the program have undergone continual modification by the Injury Awareness and Prevention Centre and the Producer's Workshop (Vancouver, BC) since its inception. As well, it has been critiqued by several leading organizations and professionals working on the prevention of injury or with teenagers or both (e.g., Alberta Alcohol and Drug Abuse Commission, Alberta Motor Association, Janice Yuwler of the Childhood Injury Prevention Program, in San Marcos, California, and Susan Gallagher, Director of the Childhood Injury Prevention Resource Centre, Harvard School of Public Health, in Boston).

References

1. Hildebrand K. Scott M. (1989). Brain Injury in Alberta. Edmonton Northern Alberta Brain Injury Society.

2. Francescutti L.F., Kiome E. (1989). Injury in Alberta, 1989. p.10-2 Edmonton: IAPC

3. Government of Canada: Statistics Canada (1989). Canada Year Book, 1988. M. Smith (Ed) Ottawa, Ont.

4. Canadian Paraplegic Association. (1988, 1989). Annual Report, 1987, 1988 Don Mills, Ont: Canadian Paraplegic Assoc.

5. Government of Alberta: Alberta Transportation and Utilities (1989). Alberta Traffic Collision Statistics, 1988, pp i, 62.

6. Government of Alberta: Alberta Health (1988, 1989). Vital Statistics, Annual Review: 1987 & 1988.

INTERVENTION: A NEW WAY TO CONFRONT THE DRUNK DRIVER

Dr. Harvey A. Siegel

Dr. Siegel is with the School of Medicine at Wright State University

Keeping driving while intoxicated or other alcohol-related vehicular offenders from repeating their crimes is crucial, but traditional remedies like alcohol/ driver education, counselling, and short term rehabilitation have had a mixed success record. That mixed record has spurred increased interest in imposing jail sentences to deter recidivism. This study reports on a two year evaluation of a new therapeutic intervention that effects specific deterrents among convicted drunk driving offenders. Using official drivers' records, researchers compared the recidivism rate of those receiving a suspended sentence/fine and those remanded to the Wright State University Medical School's Weekend Intervention Program (WIP). Rates of alcohol-related crashes by persons in the three study groups were also compared.

In addition to comparing three judicial sentencing alternatives, the study describes the sample of convicted offenders. It also describes those sent to WIP, offering data about their involvement with alcohol and examining issues such as the relationship between problem drinking and recidivism. The study explores how courts use an alternative-to-incarceration program such as the WIP, and how recidivism is affected by the way courts mandate compliance with WIP recommendations.

Recent studies have suggested that alcohol-driver education and short-term treatment do not reduce recidivism. One explanation is that these methods would have little impact on those suffering from alcoholism or a serious drinking problem. Much the same could be said about the impact of sentences on this group. Such problems require a different approach.

In 1978, Wright State University School of Medicine (Dayton, Ohio) developed the Weekend Intervention Program (WIP) in response to this problem. This program is a short-term, intense residential effort that assesses whether a client has a drinking problem, determines its extent and severity, and then prescribes treatment. A modest evaluation of the WIP in 1982 suggested that the program reduces recidivism. Based on that earlier study, this more comprehensive evaluation was undertaken.

The WIP is part of a three-pronged community system in which the WIP is the diagnostic agent, the court the referring agent and the community-based treatment agency is the service deliverer. The purpose of this study is to demonstrate that this intervention process helps prevent subsequent alcohol-related vehicular offences.

The study identifies offenders processed in Miami Valley (Ohio) courts, where judges use the three aformentioned sentencing alternatives according to their interpretation of their own communities' mandate and their individual notions about reducing the incidence of drinking and driving. Beginning in March of 1983, people were followed until June of 1985, producing a tracking period as long as two years for the cohort whose entry offence occurred in March 1983 and as short as one year for the last cohort that entered the study in July of 1984.

Recidivism among the three groups was investigated in terms of prior offence status, licence suspension action, court assignment pattern, age, sex, and blood alcohol concentration level at the time of arrest. For the WIP clients, from whom more information could be obtained, the level of involvement with alcohol was closely examined. Because offenders were not randomly assigned to the study groups, comparisons of the WIP to both the other groups was important, since one group, the jail group, would be expected to do worse in the absence of intervention, and the other group, those given a suspended sentence/fine, would be expected to do better in the absence of intervention. Recidivism rates in a log linear model analysis and survival time, using licence suspension time as a covariate in an analysis of covariance, served as the measures of outcome for the three sentencing alternatives.

Although random assignment of offenders to the three study groups is not possible in a study such as this, the effects of confounding were minimized by controlling for such factors as history of prior alcohol-related convictions, court required compliance, and court assignment practices. Analyses were conducted on a total of 3,556 cases.

Like other studies of recidivism, this investigation found that repeat offenders consistently did worse than first time offenders. But, very importantly, with repeaters the WIP did better than the comparison groups of "Jail" and "Suspended Sentence/Fine" (SS/F). The WIP group enjoyed a lower recidivism rate than the other two groups (WIP=21.8 percent; Jail = 26.8 percent, SS/F = 30.4 percent; p = 0.08), and a longer average survival time (in days) in general assignment courts that mandated offenders to comply with WIP recommendations (WIP - 456.8; Jail - 373.9; SS/F - 362.0; P = 0.05). The recidivism rate among first-time offenders in the WIP group coming from general assignment courts that mandated offenders to comply with WIP recommendations was lower than the group of all other (JAIL and SS/F) first-time offenders (WIP = 9.2 percent; other = 12.7 percent; P - 0.11).

In terms of performing the diagnostic/training function, the WIP appears to have a sound assessment procedure. The WIP staff's assessment of their clients' alcohol problem severity and the staff's distinction between clients that did and did not require treatment can be used as good predictors of recidivism. Our findings showed that the more severe the alcohol problem, the greater was the recidivism rate (p = 0.0001). Also, those clients deemed by the WIP staff to need treatment had a higher recidivism rate than clients seen as not needing treatment (p = 0.001).

The investigation suggested that recidivism could be reduced if the referring court mandated the post-WIP treatment recommendations made by the WIP staff. Within the WIP, offenders from general assignment courts with judges who mandate compliance with WIP treatment recommendations ("non-voluntary compliance courts") have a lower recidivism rate than do offenders who come from courts in which judges let offenders decide ("voluntary compliance courts") whether to comply with treatment recommendations (voluntary compliance = 15.7 percent; non-voluntary compliance - 11.7 percent; p = 0.09).

The implications of these findings are substantial. For communities in which the WIP operates, the study validates the trust that courts and other agencies have placed in it. Further, the study encourages greater use of WIP recommendations by judges in their sentencing decisions. For communities not using the WIP assessment process, the findings of this study should encourage serious consideration of the Weekend Intervention Program approach as another component in their efforts to attack the problems of drunk and impaired driving.

COMMUNITY BASED INTERVENTION PROGRAMS

THE IMPACT PROGRAM

Kimberly Badovinac

Ms. Badovinac is the Research and Development Consultant for the Impact Program

Martin Parsons

Mr. Parsons is the Manager of the Impaired Driving Program for the Alberta Alcohol and Drug Abuse Commission

IMPACT is a residential weekend program for repeat impaired driving offenders which was introduced in Alberta in December of 1985. In this presentation, we will describe:

- The underlying rationale or philosophy of the program;
- Its administrative system;
- The process of the weekend - what actually happens at IMPACT; and
- Some findings of a recently conducted outcome study.

Program Rationale/Philosophy

IMPACT represents the second program for impaired drivers initiated by the Alberta Alcohol & Drug Abuse Commission. (1)

The program originated out of concern about the rate of recidivism among impaired drivers and the lack of successful, traditional countermeasures to deal with this target population. Prior to the implementation of IMPACT, all impaired driving offenders attended a one-day educational course. This one-day course is currently operating for first offenders only.

While one of the outputs of the IMPACT Program is an alcohol/drug use assessment, the primary purpose of the weekend is to have impaired drivers explore their alcohol and other drug use for themselves.

Unlike assessment interviews which focus purely on information collection, IMPACT utilizes group dynamics to induce personal insight and motivation to change. We believe that a successful intervention should increase self-awareness and foster a sense of empowerment, encouraging participants to change negative behaviours and, if necessary, seek support to do so. (2)

IMPACT provides an opportunity for peer confrontation, leading to awareness and usually acceptance on the part of the participant. In traditional assessment interviews, rationalization and denial of drinking behaviour is much easier. The experiential, interactive learning approach used at IMPACT is based on theories of adult education and the health beliefs model. (3)

Through participation at IMPACT, we attempt to influence perceptions of substance use, risk and treatment resources thereby increasing the likelihood that participants will take action to deal with their alcohol and drug problems. The impaired driving incident provides an opportunity to interfere in the alcohol/drug use behaviour of impaired drivers before more serious problems develop.

IMPACT is an acronym for the process which results: Insight, Motivation, Progress, Assessment, Counselling, Treatment.

- Insight is achieved through Assessment
- Motivation is achieved through Counselling
- Progress is achieved through Treatment.

The goals of the program are to assess participants' alcohol/drug use and their future needs; establish an environment conducive to examination of alcohol/drug use and implementation of action plans; and, in the long-term, reduce alcohol/drug problems like impaired driving among participants.

Administration

One of the unique features of IMPACT is its administratively-based referral process. Unlike programs which rely on court-referral, attendance at IMPACT is one of a number of provincial licence reinstatement conditions required of all convicted repeat impaired drivers. Convicted drivers are notified by the Alberta Motor Vehicles Division that they must complete the weekend program if they want to drive legally in the province. By making IMPACT a condition of licence reinstatement, the onus is on the drivers to arrange when and if they will attend.

The administratively-based referral process of IMPACT is universal (all repeat offenders are targeted), consistent (all offenders receive the same intervention) and cost efficient (court orders and other tracking/compliance measures are unnecessary).

In addition to the Motor Vehicles Division, members of the Driver Control Board, an enforcement agency for problem drivers, also refer individuals when alcohol is suspected to be involved in other driving-related incidents.

IMPACT relies on the collaboration of the Motor Vehicles Division, the Alberta Alcohol and Drug Abuse Commission (AADAC), and the private sector. Private sector organizations under a fee-for-service contract with AADAC provide registration and delivery of the program, including appropriate accommodation and properly trained staff.

Licence processing and additional licence reinstatement conditions are entirely separate from attendance at the program. This, in addition to private sector delivery, positions IMPACT as an independent, non-enforcement program. This is clearly an advantage when attempting to motivate individuals who may not be receptive to messages from the enforcement community.

The Program

IMPACT is delivered by the firm of R.B. Cormier & Associates, with management provided by staff at a central office in Edmonton. Over 80 specially trained professionals are contracted to provide the program at eight locations throughout Alberta. (4) In some communities, IMPACT is operated at AADAC treatment facilities; at others, retreat centres and hotels.

For every program, there is one supervisor, a ratio of one facilitator for every six participants and support personnel for overnight supervision.

The program begins at 4:00 p.m. on Friday and concludes at 4:00 p.m. on Sunday. All participants remain at the program site for the entire 48 hours. This residential feature is important in providing participants with time away from their day-to-day routines.

Participants are free to leave at any point during the weekend. Those that leave or those who are expelled because of noncompliance with program regulations are required to re-register for another program.

IMPACT participants are predominately male. Most are between the ages of 25 and 35 and are typically employed in blue-collar occupations. The unemployment and drug use rates reported by participants exceed those of the general Alberta population.

More than 20 hours of programmed activities are provided over the IMPACT weekend. Objectives are identified for each major activity and they must be achieved within specific time allotments. As such, IMPACT is highly structured and intensive. In an effort to create an open and constructive environment, participants are well-informed of the program's agenda and activities.

The program consists of four major components: small groups, lectures, films and an assessment. Of these, the small group sessions are the most important.

Small Groups

During the initial group sessions, participants examine the effects of their alcohol and other drug use on seven major life areas: legal, financial, job, social/leisure, physical health, family/relationships and emotional health. On the basis of their disclosures, facilitators assess the severity of these effects.

In general, all seven life areas are affected. This validates the assumption that impaired driving is, for this population, only one of a number of negative effects created by alcohol use. The legal and financial areas are rated as most, and job as least severely affected. The latter finding may be attributable to work environments where heavy drinking is normative behaviour. Given the almost 25 percent unemployment rate among participants, some minimization of job effects may also be at play.

On Saturday evening, participants assess themselves and the other group members in terms of their level of alcohol and drug use. This activity formalizes the feedback process and provides each participant with an opportunity to hear how others perceive their drinking behaviour. The classification of use is based on the revised third edition of the Diagnostic and Statistical Manual of Mental Disorders.

About 60 percent of the participants are assessed at the abuse level of alcohol use, almost 40 percent at dependence and about one to two percent at use. On the basis of this exercise, participants formulate goals with respect to their alcohol and drug use and drinking-driving.

On Sunday morning, participants work together to formulate specific actions which will assist them to achieve their identified goals. These actions may include: expanding leisure activities or hobbies, attending a treatment facility or self-help group, or developing more effective methods of managing stress and conflict. These actions are written in the form of a personal contract which participants take with them at the end of the program.

Lectures and Films

Brief lectures and films are integrated with the small group sessions. Their purpose is to assist participants in the immediate application of key concepts. The lectures focus primarily on alcohol and drug misuse and the concomitant problems that may develop. The films reinforce and expand on the lecture material.

Members of Alcoholics Anonymous provide a presentation on Sunday afternoon. This presentation serves to dispel myths about A.A. and demonstrates that lifestyle change can be successfully implemented.

Assessment -

At the end of the program, participants receive written assessments of their alcohol and other drug use. Each report is based on participant disclosures during the group sessions and a brief individual interview which is held on Saturday afternoon, responses to standardized assessment instruments (currently we are using the Alcohol Dependence Scale by Skinner and the Inventory of Drinking Situations Questionnaire by Annis), and facilitators' clinical evaluations. The report is divided into five sections: Effects on Major Life Areas, Pattern of Alcohol/Drug Use, Level of Alcohol/Drug Use, Participation and Recommendations. The latter specifies action for follow-up and may include referrals to specific treatment programs and community resources. The assessments are prepared for the participants' personal reference but may be used by third parties with the participants' consent. Participants take the original report with them and a copy is placed on file.

In general, nearly half of the participants are referred to AADAC counselling or treatment services, about 30 percent to Alcoholics Anonymous and the remainder to other community resources. Participants may utilize the report for any remedial action or follow-up steps they plan to undertake. Because participants are actively involved in the assessment process, they may be more motivated to use the information to initiate change.

In brief review, the weekend progresses from examination of the effects that alcohol/drug use has caused and the implications of that use to the development of goals and action plans. Responses to an anonymous questionnaire completed in the last hour of the weekend, indicate that participants' impressions of the program are favourable. To date, approximately 11,000 participants have completed IMPACT.

Outcome Study

To determine the longer term effects IMPACT participation had on impaired driving behaviour, alcohol/drug use and subsequent life functioning, an outcome study was undertaken by AADAC. The study involved analysis of provincial driving records and AADAC treatment records for a random sample of participants attending IMPACT during the 1986-87 fiscal period. Information pertaining to life functioning and alcohol/drug use was collected via telephone interviews with a subsample of this group. The follow up period ranged from 1.5 to 2.5 years.

According to the driving records, 11.6 percent of the sample of IMPACT participants had been reconvicted one or more times of impaired driving offences. This recidivism rate was similar to the 11.1 percent rate among participants of the one-day educational course for first-time offenders. Prior to the implementation of IMPACT and the subsequent separation of first-time from repeat offenders, recidivism among the one-day program participants was between 30 and 35 percent.

We can conjecture from these findings that the introduction of a more intensive programming approach targeted exclusively at the repeat impaired driver resulted in reduced recidivism.

The magnitude of IMPACT's effect on impaired driving behaviour can be estimated using the baseline measures reported by Reis (1982) in his landmark outcome study. Relative to no treatment or intervention, IMPACT resulted in a 60 percent reduction in recidivism. (5) The IMPACT recidivism rate is lower than rates found for other repeat offender programs. (6)

Not surprisingly, reconviction for impaired driving was found to be linked to participants' level of alcohol use as assessed by facilitators. In general, dependent users were more likely to re-offend. This finding suggests that severe alcohol problems may underlie chronic impaired driving behaviour.

Self-reported recidivism was consistent with the rate obtained with the official records. One in four of the telephone respondents stated that since IMPACT, someone, most often their spouse, had tried to stop them from driving impaired.

Since attending IMPACT, most respondents indicated a general reduction in their alcohol and other drug use. Many had shifted from daily to weekend drinking. Strategies used to reduce substance use were primarily avoidance, such as going to bars less often, avoiding friends who use, skipping social events, and drinking non-alcoholic beverages.

Nearly half of the respondents reported some period of abstinence since IMPACT. The average length of abstinence was approximately one year.

Given these changes in alcohol/drug use, it is not surprising that functioning in major life areas had improved. In terms of the job area, for example, the unemployment rate at the time of the telephone interviews was half the rate at the time of IMPACT attendance.

Respondents were asked questions pertaining to the action they had taken since IMPACT vis-à-vis their substance use and impaired driving. About 45 percent reported that they had contacted at least one of the recommended resources. Of those individuals, 67 percent had contacted services provided by AADAC and 47 percent had contacted A.A. Most of these contacts were made within two weeks of program attendance.

Like recidivism, post-IMPACT action was related to facilitators' assessment of alcohol use. Dependent users, for example, were more likely to choose abstinence and seek treatment resources. However, for many of the recidivating dependent users, this treatment was inappropriate and of short duration.

The use of alternate means of transportation - taking a cab or getting someone else to drive - were the most commonly cited strategies used to avoid impaired driving. During the telephone interviews, respondents were also asked to comment on their level of satisfaction with IMPACT and give their opinions on the effectiveness of the program.

Two of every five indicated they were "very satisfied" with IMPACT. Many responded favourably to program components like the small groups and films. About a quarter of the respondents reported that they had gained insight into their behaviour as a consequence of their attendance. Over 50 percent indicated that IMPACT had helped a great deal in preparing them for situations where they were at high risk for driving impaired.

In summary, IMPACT has achieved some measure of success in terms of reducing impaired driving behaviour and other problems associated with substance misuse. We believe that with continued refinement of the program, the incidence of drinking and driving and other alcohol and drug use problems will be diminished further. Results of the outcome study indicate that dependent users of alcohol may be a special subgroup who require treatment beyond IMPACT. Consideration is currently being given to methods which would be effective in assisting these individuals.

As stated by Dr. Alan Donelson, formerly of the Traffic Injury Research Foundation of Canada, "the hard core of drinking drivers remains with us" (Donelson, 1989). The treatment and rehabilitation of problem drinkers needs to be recognized as a legitimate drinking-driving countermeasure.

Footnotes

(1) The first program for impaired drivers initiated by AADAC was known as the Alberta Impaired Drivers' Course (AIDC). This program was revised in the spring of 1987 and renamed Planning Ahead. The program utilizes an interactive learning approach in order to convey to first-time offenders the need to separate drinking from driving. The course is one day long.

(2) The key assumptions which guided the development of IMPACT were: repeat offenders' experience with alcohol and other drug problems; intervening as early as possible is critical to successful outcome; repeat impaired drivers have a continuum of problems and needs; the optimal program permits offenders to explore their alcohol and drug use themselves; a successful program creates recognition that behavioural change is needed, possible and worthwhile.

(3) The theoretical foundations of the program include: theories of adult education, assumptions of the "Health Beliefs" model, theories of small group dynamics, principles of intervention (Johnson Institute), structure of the Weekend Intervention Program (Ohio), and AADAC's philosophy and treatment approach.

(4) IMPACT Programs are held in the following locations: Grande Prairie, Hinton, Fort McMurray, St. Paul, Edmonton, Red Deer, Calgary, and Claresholm.

(5) Reis' (1982) formula for estimating the magnitude of treatment effects is: (control group recidivism rate - treatment group recidivism rate) x 100/control group recidivism rate.

(6) Reis (1982) reported a recidivism rate of 22 percent among multiple offenders one year after attendance at a group education counselling workshop. Siegal (1985) reported a recidivism rate of 21.8 percent among participants (repeat offenders with a minimum 270 days of potential driving time) of the Weekend Intervention Program.

References

Donelson, Alan C. (1989). The Alcohol-crash Problem and its Persistence: The Need to Deal Effectively With the Hard Core of Drinking Drivers. Paper presented to the 34th International Institute on the Prevention of Treatment of Alcoholism. Pontault-Combault, France. June 8, 1989.

Reis, Raymond E. (1982). Analysis of the Traffic Safety Impact of Educational Counseling Programs for Multiple Offence Drunk Drivers. Paper presented at the Second Symposium on Traffic Safety Effectiveness (Impact) Evaluation Projects. Fredericksburg, Virginia. May 25-27, 1982.

Siegal, Harvey A. (1985). Impact of Driver Intervention Program on DWI Recidivism and Problem Drinking. Washington: U.S. Department of Transportation. (DTNH 22-83-C-05150)

DRIVER IMPROVEMENT PROGRAMS IN THE FEDERAL REPUBLIC OF GERMANY

Dr. Bernd Friedel

Dr. Friedel is a director and professor at the Federal Highway Research Institute

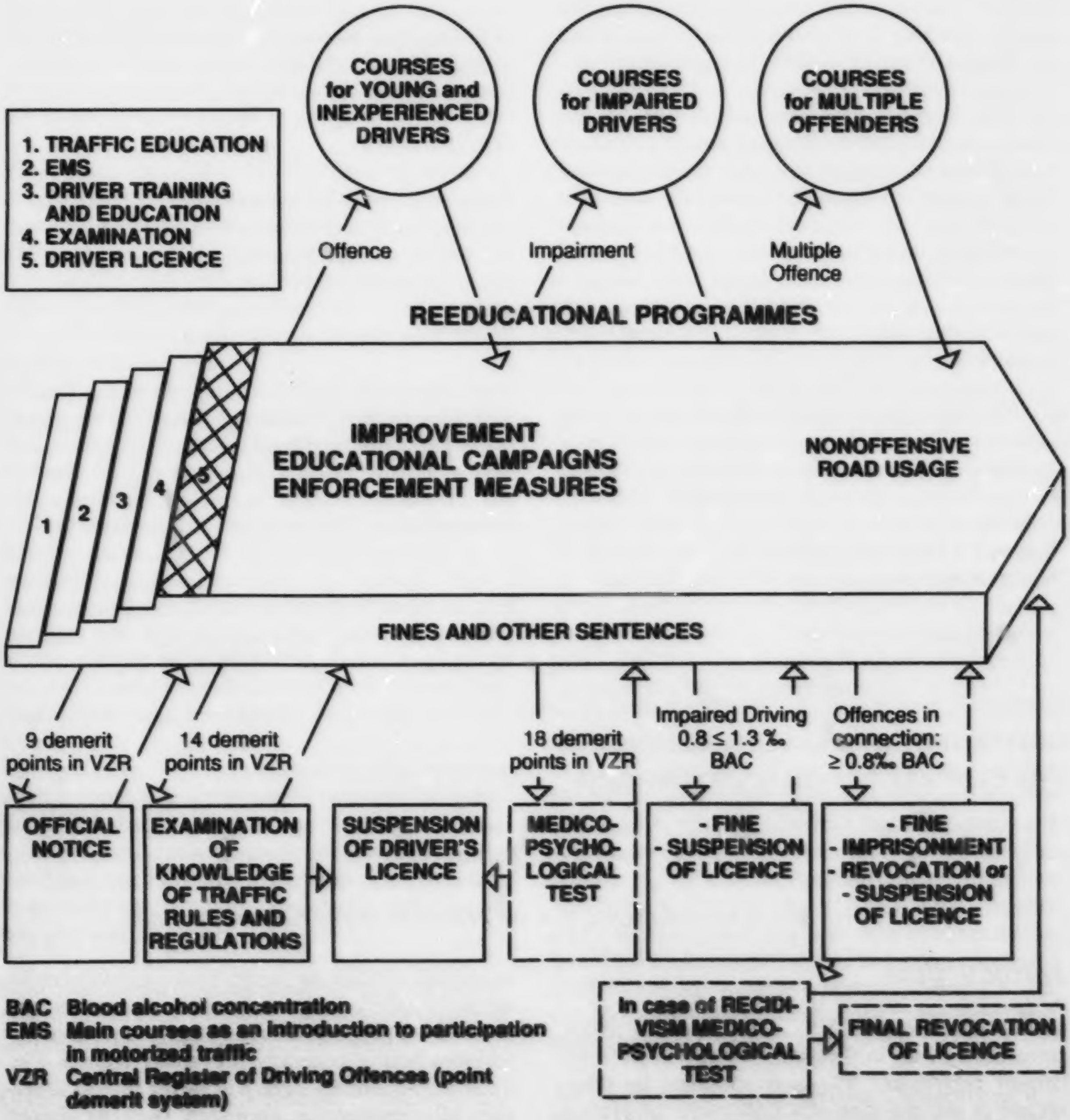
Introduction

In the Federal Republic of Germany, intensive efforts have been made in the last 20 years to improve driving behaviour. The basic rationale for these measures was the idea of a systematic integration between road safety education, driver training and examination, licencing, safety training, enforcement measures, safety campaigns and driver improvement or retraining programs. This comprehensive concept includes both a generally preventive approach in order to influence a large part of the drivers and a specially preventive approach such as driver improvement programs (retraining).

A survey of the measures to influence road user behaviour was given by Kroj.(1) In the Editorial of the Journal of Traffic Medicine 1989 (2), he stated that, "driver improvement programs will be effective only if they form a functional part of an overall system of providing information, support and feedback. Efficient police controls here play an important role as eminently as does an efficient central system to register offensive and inoffensive modes of road user behaviour."

The following description begins with a list of all the measures installed, and concentrates basically on the problem of drinking and driving. The relevant regulations of the Highway Traffic Act and the Criminal Code as well as the alcohol safety programs (ASP) for drinking and driving offenders are explained.

Fig. 1: Measures to Influence Road Users in The Federal Republic of Germany.



1. TRAFFIC EDUCATION
2. EMS
3. DRIVER TRAINING AND EDUCATION
4. EXAMINATION
5. DRIVER LICENCE
COURSES for YOUNG and INEXPERIENCED DRIVERS
COURSES for IMPAIRED DRIVERS
COURSES for MULTIPLE OFFENDERS
Offence
Impairment
Multiple Offence
REEDUCATIONAL PROGRAMMES
1
2
3
4
5
IMPROVEMENT
EDUCATIONAL CAMPAIGNS
ENFORCEMENT MEASURES
NONOFFENSIVE ROAD USAGE
FINES AND OTHER SENTENCES
9 demerit points in VZR
14 demerit points in VZR
18 demerit points in VZR
Impaired Driving 0.8 ≤ 1.3 ‰ BAC
Offences in connection: ≥ 0.8‰ BAC
OFFICIAL NOTICE
EXAMINATION OF KNOWLEDGE OF TRAFFIC RULES AND REGULATIONS
SUSPENSION OF DRIVER'S LICENCE
MEDICO-PSYCHOLOGICAL TEST
- FINE
- SUSPENSION OF LICENCE
- FINE
- IMPRISONMENT
- REVOCATION or
- SUSPENSION OF LICENCE
In case of RECIDIVISM MEDICO-PSYCHOLOGICAL TEST
FINAL REVOCATION OF LICENCE

BAC	**Blood alcohol concentration**
EMS	**Main courses as an introduction to participation in motorized traffic**
VZR	**Central Register of Driving Offences (point demerit system)**

Measures to Influence Road Users

Figure 1 provides an overview illustrating the measures taken to influence road users.(2) Traffic education, introductory training courses, driver training and education and the legal framework for obtaining a driver's licence are first steps towards inoffensive road usage.

Educational campaigns, enforcement measures and retraining programs address drivers. Fines and other sentences basically address offenders. An important role, as has been pointed out, is played by the Central Register of Traffic Offenders with its demerit point system (VZR). Depending on the total points reached in the Central Register, the German Highway and Vehicle Code provides for a scale of sanctions from a written warning to the suspension of a licence. The total vehicle population in the Federal Republic of Germany amounts to about 29 million. About 2.8 million passenger cars are newly licenced each year. The VZR now covers about 4.4 million drivers having reached a total of 2.5 million entries. A total of 134,000 driver's licences were cancelled in 1987, 116,000 of which were a result of drinking and driving offences. Two million entries resulted in fines being paid.

Legal Provisions

The Highway Traffic Act (StVG) regulates the use of public roads as well as the issuance, cancellation and return of driver's licences. Pursuant to section 2 of the Highway Traffic Act, any person who passes a driving test, masters the principles of first aid to injured accident victims, and is not afflicted by any relevant disabilities or where such have not been determined, is entitled to a driver's licence.(3) Pursuant to section 4 of the Highway Traffic Act, the administrative authorities may cancel a driver's licence if a driver has given cause to believe in his or her incompetence as a driver. Drivers can be regarded as incompetent especially for the following reasons: if he or she is afflicted with a physical or mental disability which affects the safe operation of a motor vehicle, if he or she uses the road while ability is impaired by alcohol or narcotic drugs or is found criminally violating the regulations of the Highway Traffic Act or Criminal Code.

Mandatory licence revocation (cancellation) in such cases is intended for the protection of the general public. A person whose licence is cancelled may not operate a motor vehicle under any conditions. In order to regain a driver's licence, a new licencing procedure is required which is basically the same as the procedure governing the first issuance of a driver's licence. Although the authorities may in this case waive completion of a driver re-examination, they must insist on an examination of driver ability. If a driver's licence has been cancelled because of repeated violations of the regulations of the Highway Traffic Act or the Criminal Code, a medical and psychological report of an officially acknowledged medical and psychological institute will be required. Such a report may also be required to enable authorities to decide on the cancellation or restriction of a driver's licence. In the interest of uniform treatment of similar cases of repeated traffic violations, the authorities are required to base their decision on the so-called point system for drivers with several previous traffic violations (cf. general administrative provisions within section 156 of the German Highway and Vehicle Code (StVZ0)).

The cancellation of a driver's licence is the responsibility of both the administrative law and the Criminal Code. Criminal traffic violations fall within section 316 of the Criminal Code (StGB).(4) If a person operates a motor vehicle while his or her ability is impaired by alcohol or narcotic drugs this would be dealt with pursuant to the appropriate section of the Criminal Code above. If a driver, due to his or her alcohol-impaired ability, endangers the life of other persons or important material goods, it would fall within section 315c of the Criminal Code. In view of the large number of such violations, the courts require a clear guideline. The Federal High Court of Justice has fixed the blood alcohol limit of probative value at 0.13 percent. Any driver with 0.13 percent alcohol in his or her blood or more is automatically and without exception considered to be unable to drive a motor vehicle.

However, even at lower blood alcohol concentrations, a driver can be considered unable to operate a motor vehicle properly and safely if additional facts of evidence of alcohol-impaired driving ability can be produced. Indicative evidence would for instance be illness or sleepiness or exterior conditions, such as pavement and weather conditions, or the specific behaviour of the driver in question. The deficiency symptoms to be considered in such cases are the following: dangerous driving, failing to observe traffic signs, speeding, untoward behaviour to police officers, conspicuous behaviour, such as stumbling, swaying and other clinical symptoms of intoxication. If a person is sentenced for an illegal act while operating a motor vehicle and such an act is regarded as evidence of driver incompetence, the courts pursuant to and under the authority of section 69 of the Criminal Code will issue an order cancelling his or her driver's licence.

High-risk driving pursuant to section 315c and drunk driving (section 316) are generally considered as cases demonstrating the incompetence of the drivers concerned. If the courts issue an order cancelling a driver's licence they usually also fix the period of disqualification at the same time—generally between six months and five years.

Pursuant to the Criminal Code, the lower limit to be regarded as indicative evidence of alcohol-impaired driver ability is 0.03 percent alcohol in the blood.

Since 1973, any person having care and control of a motor vehicle with 0.08 percent alcohol in the blood or more or who has consumed a quantity of alcohol producing this blood alcohol level is found guilty of a minor offence. This risk limit takes into account the fact that the risk of a driver to other road users greatly increases with blood alcohol concentration levels between 0.06 percent and 0.07 percent. Any person committing an act as described above is found guilty of a minor offence even if evidence of impaired driving cannot be reliably established. If in such cases the courts order a fine pursuant to section 24a of the Highway Traffic Act there is generally also a mandatory suspension of the driver's licence for periods between one month and three months. In view of the legal position described, any person operating a motor vehicle with 0.09 percent alcohol in the blood, commits a minor offence and with 0.04 percent alcohol in the blood and at the same time other evidence of impaired driving, a felony.

As already mentioned, the cancellation of a driver's licence thus falls into the jurisdiction of both the executive and the established case law. The jurisdiction of administrative authorities however is limited when cases are pending. Administrative authorities are bound by the decision of a criminal court.(3) The period of driver disqualification decided upon by such a court may not be cut down by an administrative authority.

Procedures

The procedures taken in the case of drivers with drinking and driving offences in the Federal Republic of Germany are outlined in Figures 2 and 3.

First time offenders have the opportunity to participate in an alcohol safety program. If they refuse to cooperate, they must wait for the period of licence cancellation to elapse before they can apply for a new driver's licence.

Fig. 2: Alcohol Safety Programs (ASP) According to Kroj (2)

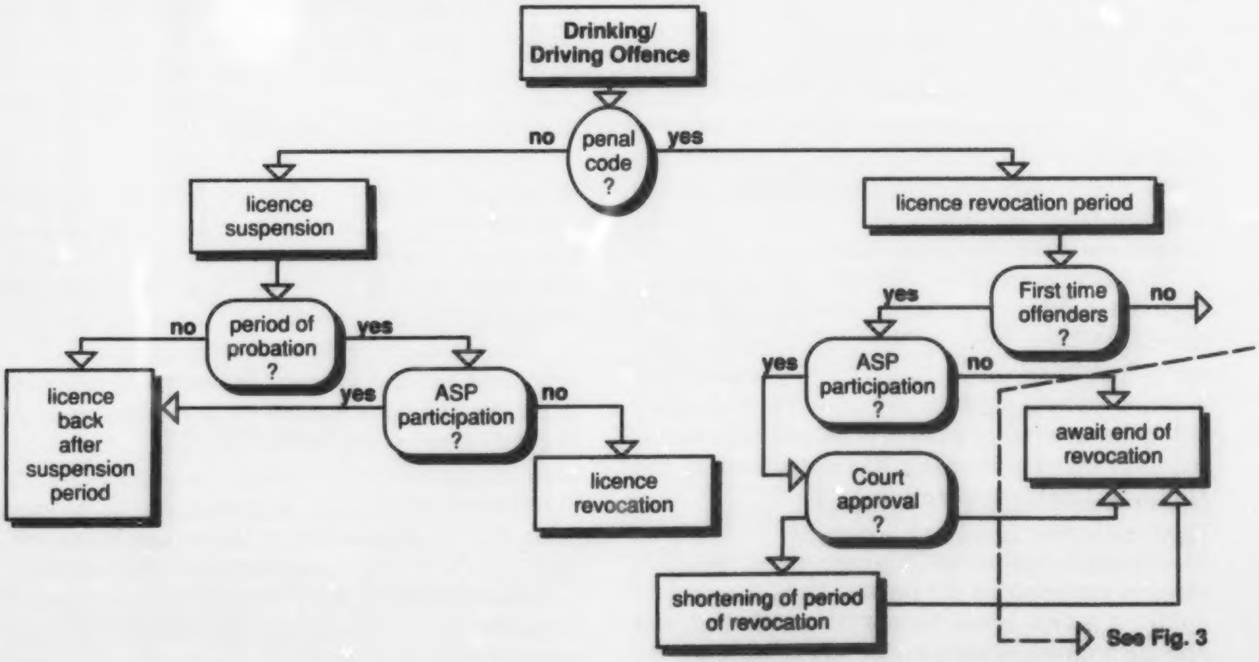
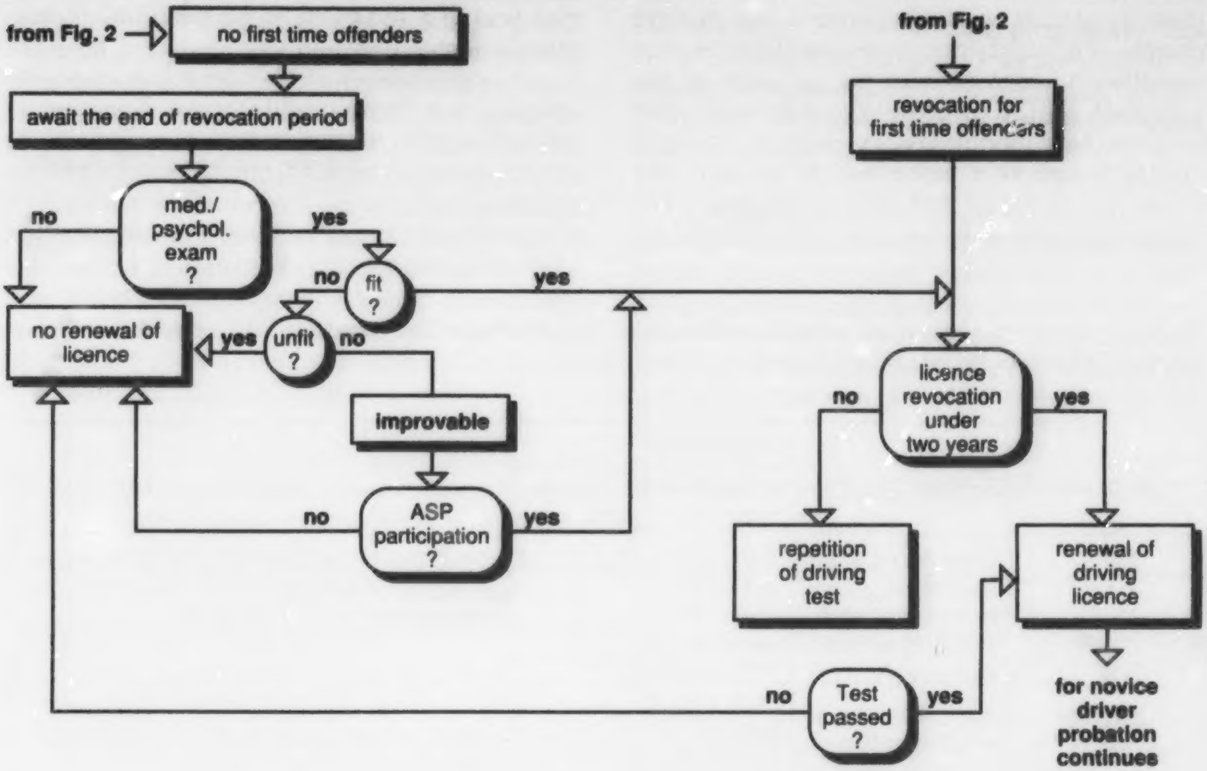

Drinking/ Driving Offence
no
penal code ?
yes
licence suspension
licence revocation period
no
period of probation ?
yes
licence back after suspension period
yes
ASP participation ?
no
licence revocation
yes
First time offenders ?
no
yes
ASP participation ?
no
await end of revocation
Court approval ?
shortening of period of revocation
See Fig. 3

Fig. 3: Alcohol Safety Programs (ASP) According to Kroj (2)



from Fig. 2
no first time offenders
await the end of revocation period
med./ psychol. exam ?
no
yes
fit ?
no
yes
no renewal of licence
yes
unfit ?
no
improvable
ASP participation ?
no
yes
from Fig. 2
revocation for first time offenders
licence revocation under two years
no
yes
repetition of driving test
renewal of driving licence
for novice driver probation continues
Test passed ?
no
yes

If they cooperate and the judge accepts the evidence of improved attitudes and behaviours, the cancellation period will be reduced. If the judge does not accept the evidence, offenders have to wait until the period of licence revocation ends. The judge is completely free to decide whether participation in an improvement program has helped a driver to reform or not.

If the result of the medical and psychological examination confirms the doubts about the multiple offender's present incompetence, but implies the belief that participation in an improvement program can correct the behavioural shortcomings, the driver is advised to take part in such a program.

According to the probationary drivers licence, which was enacted in 1986, it is required that beginners prove their competence as drivers by not causing an accident or violating traffic regulations for two years after being issued such a licence. In the case of a licence suspension caused by a drinking and driving offence, beginners are required to take part in a special improvement program. If they refuse to do so, they are disqualified. If they cooperate, they get their licence back and the period of probation continues.

Alcohol Safety Programmes (ASP)

As pointed out, the courts are required to protect the public from drunk drivers. Alcohol safety programs can therefore only be regarded as additional safety measures.

Beginners Guilty of a Drinking and Driving Offence

A special alcohol safety program has been established for this important target group (See Table 1). The program's specific objective is widening the knowledge of participants, on things such as the blood alcohol concentration limits, the calculation of the percentage of alcohol in the blood, the risk of accidents and the rules of behaviour to avoid any future trips while ability is impaired by alcohol (5). Trained psychologists are employed as program leaders. "The results so far are quite promising," according to Kroj.(2)

First Drinking and Driving Offence

Since 1978, three program models have been introduced based on behaviouristic and individual approaches and on an eclectic model derived from group dynamics (See Table 1). The objective of these programs is to supplement the general preventive effect of fines and the mandatory licence cancellation ordered under the authority of the Criminal Code (StGB) of the Federal Republic. The programs have the objective to restore the ability of drivers to operate a motor vehicle properly and safely and to reduce and prevent relapses. The programs focus on analyzing and evaluating previous faulty behaviours and on modifying the drinking behaviour of participants. Program participation may lead to a reduction of the period of licence cancellation.

The programs, "have steadily increased in number, although at different rates in the various regions. In previous years, about 4,000 offenders attended such programs each year, a number which is very low compared with the total of 140,000 found guilty for a first offence per year." (Kroj (2))

Table 1: Structure, Organization and Distribution of Alcohol Safety Programs for First-time Drinking and Driving Offenders in the Federal Republic of Germany

Program Model	Sponsor/Organizer	Organization		Methods
		Schedule and duration	No. of participants	
ALFA	Gesellschaft fur Ausbildung, fortbildung und Nachschulung im Strassen-verkehr, Koln	Entrance examination and four sessions of 120 minutes each over a period of four weeks	Approx. 10	Group disussions; brief lectures, if necessary to convey new knowledge; use of task and information sheets; homework
Hamburg '79	Institut fur Gruppenforschung, Hamburg	Entrance examination, two sessions per week, in all 21 sessions of 45 minutes each	8 - 10	Group discussions concentrating on particular subjects; role-playing; discussion of new aspects, program monitoring on video screen, homework
LEER-E	Technischer uberwachungsverein, Hanover; Technischer Oberwashungsverein Bayern	Entrance examintaion, six group sessions of two hours each, follow up sessions (two hours) and further contact by correspondence; in all two years	8	Group discussions; self-observation and self-control measures and exercises; techniques to modify behaviour; information material; homework
Mainz '77	various TOVs (technical inspection agencies)	Entrance examination, 6 x 2 session periods over a period of three weeks	8 - 10	Group discussions; techniques to modify behaviour; self-control methods; in information material; homework

The effectiveness of these programs has been evaluated by Stephan et al. (6). In all, the performance of 463 persons who participated in such programs has been analyzed. The sampling did not yield a clear reduction in the rate of relapse over a period of three years. The authors nevertheless regard the result as positive since the reduction in the cancellation periods did not cause an increase in the relapse rate despite the negative selection of the program participants (long-term alcohol abuse in spite of the treatment importance of the driver's licence and favourable intellectual pre-conditions). A final evaluation of program effectiveness will however, be possible only after a probation period of at least five years.

Several Drinking and Driving Convictions

The structure of the alcohol safety programs for this group is outlined in Table 2. Three programs have been developed using an individual approach (called IRAK), a behaviouristic approach (called IFT), and a group dynamic model (called LEER).

These programs are applied under the administrative law of the Federal Republic of Germany. As noted before, after a first (and usually also a second) drinking and driving conviction, the administrative authorities issue an order requiring a medical and psychological examination at the end of the period of licence cancellation. If the results of the

Table 2: Structure, Organization and Distribution of Alcohol Safety Programs For Drivers with Several Previous Drinking and Driving Convictions in the Federal Republic of Germany

Program Model	Sponsor/Organizer	Organization		Methods
		Schedule and duration	No. of participants	
Individual approach	Gesellschaft fur Ausbildung, fortbildung und Nachschulung im Strassenverkehr e.V., Koln; Technischer Oberwachungs-verein Rheinland	13 double periods (6.5 hours of session over four weekends) distributed over a period of four or seven weeks	10 at most	Life-style analysis; group discussions; information on the risks inherent in alchohol consumption; task sheets; information material; homework
Behaviouristic approach	Various TOVs (technical inspection agencies)	Four-week period of self-observation and registration; six sessions (in all 14 h);	8 at most	Group discussions combined with role-playing; analysis of behaviour; setting up individual behavioural targets; self-observation and control measures and exercises; homework
LEER-model	Various TOVs (technical inspection agencies)	12-week period of self-observation and control; follow-up survey a year after program completion; final session (2 h) two years after program completion	8 at most	Group discussions; analysis of drinking behaviour; information on drinking and road safety; self-observation and control measures and exercises; methods to modify behaviour; homework

examination point to behavioural shortcomings increasing the probability of a relapse, participation in an alcohol-safety program may be recommended in order to correct the shortcomings uncovered.

Conclusions

The risk to road safety due to alcohol continues to challenge the scientific community despite the efforts already invested in reducing this serious social issue. It has been estimated that at least one alcohol-impaired driver is involved in one half of all fatal accidents.

The high acceptance of alcohol consumption in our society greatly complicates coping with the problem of drinking and driving. Many believe that drivers with drinking and driving convictions often are regular and heavy drinkers. The distribution of the blood alcohol levels yields a peak at 0.16 percent alcohol in the blood. The measures taken to improve the drinking and driving problems basically are legislative, educational and police control measures.

Alcohol safety programs for the rehabilitation of drivers have been conceived in order to offer help on an individual basis. Such rehabilitation measures are necessary and they must be improved continuously. What is also necessary is making every conceivable effort at modifying the established drinking habits and behaviours in our society. "Surely the responsiblity of solving this problem of alcohol misuse by road users rests with the society that has created it." (Quotation from the National Chairman of the Road Trauma Committee, Royal Australian College of Surgeons, Mr. G.W. Trinca).

References

1. G. Kroj: Perspectives to Improve Driving Behaviour in the Federal Republic of Germany, Editorial in Journal of Traffic Medicine, Volume 17, Number 1, 1989

2. G. Kroj: Programmes to Improve Driving Behaviour in the Federal Republic of Germany, Journal of Traffic Medicine, Volume 17, Number 1, 1989

3. W. Furst: Fahrerlaubnis im Verkehrssrecht - Erteiling and Entziehung in: Verkehrsmedizin, Springer, 1984

4. K. Handel: Verkehrsmedizin und Strafrecht in: Verkehrsmedizin, Springer, 1984

5. E. Spoerer et al.: Nachschulung and Rhabilitation verkehrsauffalliger Kraftfahrer, Faktor Mensch im Verkehr, Heft 35, 1987

6. E. Stephan et al.: Wirksamkeit der hachschulungskurse bei erstmals alkoholauffalligen Kraftfahrern, Forschungsbericht der Bundesanstalt fur Strabenwesen zum Projekt 8035, B. Gladbach, 1988

7. W. Winkler et al.: Wirksamkeit in Jursen fur wiederholt alkoholauffallige Kraftfahrer Unfall-und Sicherheitsforschung Strabenverkehr, Heft 64, B. Gladback, 1988

8. G. Hundhausen: Sollten Furse fur alcoholauffallige Kraftfahrer rechtsformlich eingefuhrt werden? Blutalkohl, Vol 26/1989

SERVER INTERVENTION PROGRAMS: TARGETING THE LICENCEE

TEAM (TECHNIQUES FOR EFFECTIVE ALCOHOL MANAGEMENT)

Michael T. Impellizzeri

Mr. Impellizzeri is Chief of the Special Programs Division of the National Highway Traffic Safety Administration for the U.S. Department of Transportation

Introduction

Approximately half of all motor vehicle fatalities each year in the United States are alcohol related. This is 25,000 deaths: 500 every week, 71 every day, and one every 20 minutes. In addition, 560,000 people are injured each year in alcohol-related crashes in the United States.

These relentless statistics underline the continuing national outcry against drinking and driving — one consequence of which is that today anyone who sells or serves alcoholic beverages is a potential defendant in a lawsuit. The risk of legal liability is especially high for public assembly facilities (the largest bars in town), where thousands of fans, ready availability of alcohol, and celebratory atmosphere increase the chances of alcohol-related incidents. If impaired patrons drive away from a facility, crash, and kill or seriously injure themselves or others and, if someone alleges that the facility or any of its employees contributed to those patrons becoming intoxicated, the facility may find itself the target of a very costly lawsuit.

Founded in 1985, TEAM (Techniques for Effective Alcohol Management) grew out of the concerns shared by the management of several arenas, stadia and auditoriums about the impact of alcohol abuse among sports fans. Disorderly conduct at sports events was growing, liability insurance costs were skyrocketing, and the risks of being in an alcohol-related highway crash were on the rise. TEAM was therefore introduced as a demonstration project in seven National Basketball Association arenas. TEAM worked with the management of the facilities in organizational and policy development activities. Management and staff were then trained in the implementation of the newly developed policies, including how to recognize the signs of alcohol impairment and intervene in difficult situations.

These concerns prompted development of the TEAM Facility Alcohol Management Program. Facility Alcohol Management (FAM) addresses the problems created by intoxicated patrons at public assembly facilities and, in turn, fosters a family atmosphere. A complement to crowd control efforts, the program involves all of the various facilities' operations units (parking lot attendants, ticket takers, ushers, vendors, security, etc.) in a cooperative effort to reduce the risks associated with patrons' abuse of alcoholic beverages. The program assists facility managers in examining their current alcohol policies and practices, developing responsible policies, and training facility staff members to implement those policies. The program aims to get patrons to the facility in a safe manner; while at the facility, provide them with an enjoyable experience; and return them home safely.

To determine the effectiveness of the program, a demonstration project was instituted through the activities of policy analysis, survey research on workers' and patrons' attitudes and reported behavior, and review of archive data on sales of alcoholic beverages and food sold through the facilities concessionaires.

Findings for the program after its first year indicated that the strategies and tactics TEAM employed in the seven demonstration facilities were effective in several domains: revising policies concerning alcoholic beverage sales, consumption, promotion, and service; training arena employees to recognize, prevent and intervene with alcohol problems among patrons; and increasing both patrons' and workers' awareness of those new policies. Additionally, decreases in sales and consumption of alcoholic beverages, particularly beer, were registered in two of the demonstration sites, along with an increase in overall food and non-alcoholic beverage sales, plus increased attendance.

The evaluation of the TEAM demonstration also yielded the following conclusions: a facility-wide approach is more productive than a vendor-only approach; management support and involvement is critical (workers need assurance their actions will be backed up); and policy implementation is enhanced by posting signs stating the facility's policy.

The FAM program is a systematic approach which consists of five interrelated components:

Assessment

TEAM assessment is the starting point for identifying current policies and practices of alcohol management in the facility. The TEAM Assessment takes place in an organizational meeting utilizing a survey form to guide discussion. The methods used to assess current policies and operating procedures lead to recommendations tailored to the special needs and circumstances of a facility.

Policy Formulation

A written policies and procedures statement should spell out the actions, regulations, etc., that facility management has already implemented or intends to implement to help prevent alcohol abuse. Selection of these policies and procedures is the sole responsibility of facility management; but those deemed practical and effective for one facility will usually differ from those selected by another. Most public assembly facilities, however, will institute policies and procedures that fall into four major categories:

- Admissions — Regulating the carrying of alcoholic beverages into the facility, and the consumption of the alcoholic beverages on the premises, e.g., parking areas;
- Sales — Regulating when, where, and how much alcohol may be purchased by patrons in the facility;
- Transportation — Providing or promoting alternatives to driving for patrons who may be impaired;
- Information and Awareness — Increasing patrons' knowledge of the risks of impaired driving, and motivating patrons to act responsibly for themselves and their friends.

TEAM Training

TEAM trainers work with all of the facility's employees using tools such as films and video tapes, role playing, and specially designed TEAM training manuals. A four-hour training seminar covers such topics as:

- The magnitude and scope of the impaired driving problem;
- Alcohol's effects on the human mind and body;
- Civil liability risks faced by public assembly facilities and their employees;
- Blood Alcohol Concentration (BAC);
- The facility's policies and practices to prevent drunk driving;
- Cues for detecting alcohol impairment;
- Potential problem situations involving alcohol that arise in public assembly facilities.

Policy Implementation

Following the training of employees, policies are publicized to patrons and implemented in the public assembly facility.

Evaluation

Facility managers need to assess how well the program has been implemented and what impact it is having. Each of the other components of TEAM will be affected by the evaluation process, for example:

- During the assessment process, it is important to consider what records should be maintained so that later you will be able to determine how TEAM has affected such things as alcohol sales, food sales, attendance, and alcohol-related incidents.
- Key evaluation goals with respect to training will be to determine whether facility staff actually improved their knowledge and attitudes concerning the management of alcohol abusers, and whether any improvements resulting from training endured over time.
- An important evaluation issue will be to determine if policy implementation has taken place as planned, i.e., whether the policies and procedures spelled out in the written policy statements have, in fact, been put into place, and whether they are being adhered to by staff.

Conclusion

Since the demonstration project, the TEAM facility alcohol management program has been introduced into most National Basketball Association facilities and all of the Major League Baseball facilities. A total of 70 facilities, spanning 10 cities and 32 States and five Canadian Provinces have participated in the program and more than 20,000 employees have been trained. Facility managers are continually reviewing their alcohol policies and procedures, and have developed refresher training programs for their employees.

Facilities have made major changes in the way they sell alcohol and in the ways they control alcoholic beverages. Examples of these changes include: requiring an ID check for all patrons attempting to purchase alcohol who appear to be 21 years of age or less; reducing the size and number of drinks that can be purchased; cutting off the sale of alcohol prior to the end of the event; and implementing non-drinking sections in the facility.

This program, therefore, has many benefits, not the least of which is promoting a positive image of the facility as a concerned member of the community. It also complements facility crowd control efforts in that it reduces alcohol-related problems in general.

ONTARIO'S SERVER INTERVENTION PROGRAM (S.I.P)

Vicki Ronald

Ms. Ronald is the S.I.P. Client Services Coordinator at the Addiction Research Foundation

This paper provides background information about the development of S.I.P., what an effective server training program should include, the S.I.P. program itself and finally the future of server training in Ontario.

Server training programs are directly targeted to the hospitality industry. There are five forces which influence the hospitality industry when it attempts to meet consumer demands. These are economic, social, government, legal and insurance.

The first factor is economic. Profits are simply what is left of sales after deducting costs. When discussing this, it is important to not only focus on the sales of alcoholic beverages, or the obvious costs of goods, labour and overhead, but to examine the full range of product 'sales' and 'hidden costs'.

Hospitality sales can be divided into three categories: food, beverages and entertainment. Alcohol as we know is the easiest to sell and promote, yet the changing environment during the last few years concerning liability has presented a challenge.

The nature of liability claims can often signal problems in alcohol beverage service. Regulatory violations such as serving alcohol to minors or intoxicated patrons or allowing dangerous or illegal activities to occur on the premises create real and potential costs to a business.

Serving staff that is inexperienced, unqualified, and poorly trained will be unable to carry out policies, thus increasing risk of liability instead of decreasing it.

The next factor is the social factor. Because of the nature of the products and services provided by this industry, there are exceptional responsibilities placed upon it to protect public health and safety. This is especially true regarding the sale and service of alcoholic beverages.

Concern about alcohol abuse and drinking and driving has resulted in increased public awareness about the role in prevention efforts for businesses selling alcoholic beverages. Grassroot organizations such a PRIDE, SADD and MADD have heightened this public awareness. Pressure has been placed on the hospitality industry to change its practices, especially the promotion of alcoholic beverages. The public concern and the increase in the number of liability claims has led to further intervention by the government.

The government controls businesses in a variety of ways including licencing, fees, taxes, regulations and law enforcement. At times, government policies and regulations can make running a business difficult, but when any of these regulations are contravened, the legal system, and the fourth factor influencing this industry steps in.

More than any other, this force has had the greatest impact on industry practices. Within the next few years, more cases will be tried using the principle of our common and statutory laws. The outcome of these cases will hopefully define what the courts view as responsible serving practices.

The final influencing force is insurance. Insurance companies have begun to create incentives, including rate reductions for responsible beverage service training. We work with two insurance companies who have made S.I.P. mandatory for clients whose receipts from alcohol are 60 percent or greater.

S.I.P. can be traced back to a 1973 landmark decision of the Supreme Court of Canada which unanimously upheld that a tavern could be held civilly liable for failing to protect a patron from injuries he or she suffered both on and off of the premises.

In all Canadian provinces it is a breach of the provincial Liquor Licence Act to serve anyone past the point of intoxication. Canadian server intervention programs therefore require a major emphasis on prevention of intoxication, as prevention is the basis of liability. Therefore, signs of intoxication and prevention strategies are key to any good program. A program looking only at management of intoxication just isn't enough, and would give people a false sense of security.

There are additional bases of liability in Canada, such as the use of excessive force, the sponsoring of a potentially dangerous activity and the transportation of the intoxicated. Because of this, provider liability just isn't enough. Programs in Canada cannot be uni-faceted; they must be more comprehensive. For example, we need to look at occupiers' liability, and liability for use of excessive force. More suits are being launched for use of excessive force in Canada than under either provider or occupier liability. We cannot use force simply to eject.

In addition to including an understanding of the scope of liability, programs should also integrate the provincial alcohol law. First of all, it is important that a program not violate liquor licence regulations; second, a program should point out rights, powers, and obligations that apply to licencees and their staff and how a violation thereof could make them vulnerable to a liability suit.

Programs must also reflect the fact that in Canada, you could be held liable for serving alcohol to someone who is in fact intoxicated. It doesn't have to be obvious; they don't have to fall down at your feet; you don't have to show negligence; you don't have to have special knowledge of his or her susceptibility to alcohol; you don't have to have actual knowledge of the patron's intoxication; and you don't have to serve him or her all of the alcohol...it is the mere fact of serving that gives rise to liability.

Finally, policy implications for the programs are significant. Given the context within which Canadian server training programs need to be developed, it is vital that these programs recognize the importance of house policies - key conditions which set the environment within which staff work.

The goals of Ontario's S.I.P. - Server Intervention Program are to help licencees and their employees respond effectively to this changing legal environment and thereby avoid the risks of lawsuits and prosecution and to avoid breaking the law. S.I.P. is unique because it is the only program designed exclusively to respond to the needs of Ontario's hospitality industry, as it deals specifically with the Ontario Liquor Licence Act (LLA).

We offer two versions of the S.I.P. Program; one for owners and managers of licensed establishments and the second for their staff. Both versions offer an extensive discussion of four key areas.

ALCOHOL AND THE LAW - knowing the risks of civil lawsuits and the provisions of the LLA of Ontario;

FACTS ABOUT ALCOHOL - knowing what alcohol is and how it affects people differently;

PREVENTION STRATEGIES - learning methods of preventing intoxication from occuring, and;

MANAGEMENT STRATEGIES - how to manage an intoxicated patron.

The owner/manager version includes an additional component on adopting house policies to sustain the training.

The first area is *ALCOHOL AND THE LAW*. This information is important as it gives the participants a clear idea of what they can and cannot do under the LLA. As such, it sets the framework for the program - in effect, it defines the 'problem', and the remainder of the course defines the 'solution'.

In this section we examine several cases in Ontario where precedent has been set and define how one can be held liable both as a provider of alcohol and as an occupier of a licensed premise. We also show a video that is accompanied by a questionnare.

The second section is *FACTS ABOUT ALCOHOL*. It is useful to talk a little bit about alcohol, as this information serves as a background for the techniques and strategies that we discuss in the subsequent sections. Specifically, we define intoxication, the factors that influence impairment, the signs of intoxication, and how you know when someone has had too much to drink. To this end we have developed a chart showing participants how many standard drinks a patron can consume to remain under the legal limit of 80mg percent.

The third section, *PREVENTION STRATEGIES*, is really the heart of an effective server training program. If the law tells us that we cannot serve patrons past the point of intoxication, what can be done in a drinking environment toward that goal without compromising the generation of revenues. This is where we discuss the importance of low risk options; for example, promoting low alcohol and non-alcoholic beverages, food and quality upgrading. We introduce strategies which can reduce many of the legal problems, and we involve participants in role playing exercises to practice their new skills.

The fourth area, and the last in the server session, deals with *MANAGING INTOXICATED PATRONS*. Management strategies to limit the damage are essential as no prevention strategy is perfect. Techniques are directed to minimizing the greatest risk of the greatest harm; an intoxicated person on a licensed premises is an accident waiting to happen and a potential liability. Therefore, it is important to identify problem situations and develop a response that all staff are aware of and can use on a consistent basis with management support.

The last area is given only to owners and managers and that is a section on *DEVELOPING HOUSE POLICIES*. These are techniques and strategies from the training that are examined and tailored to the type of establishment. It is important to realize that training programs can only succeed if they are supported by an integral set of house policies and if all staff are involved.

At the end of the training program, each participant receives a manual (either server or owner/manager), each participant must write a short true/false and multiple choice test, and those who successfully complete it are issued a certificate.

The future of server training programs in Ontario is that it will be mandatory. On June 1st, 1989, Minister Bill Wrye announced that anyone who serves alcohol in a licensed establishment must be trained in a server training program by December 31st, 1992. S.I.P. is endorsed by the Ministry of Consumer and Commercial Relations and the LLBO. For this reason we have submitted a proposal to the Board that S.I.P. be the only program used for the purpose of mandatory training. If the Addiction Research Foundation is given this responsibility, there are approximately 200,000 people who will require the training. Ontario will be the next province to follow British Columbia in making server training mandatory.

SERVING IT RIGHT: THE BRITISH COLUMBIA RESPONSIBLE BEVERAGE SERVICE PROGRAM

Janice Carlson

Ms. Carlson is a Policy Analyst at the Policy and Legislation Branch for the Ministry of Labour and Consumer Services

Introduction

The purpose of this paper is to tell you about Serving It Right, British Columbia's Responsible Beverage Service Program. I intend to cover three main points: how and why the program was developed; the main features of the program; and how it is being implemented in British Columbia today.

Background

Ten years ago, responsible beverage service programs were virtually unknown. In the past few years, there has been a growing trend towards the development and implementation of these training programs particularly in the United States and Canada. Serving It Right, the British Columbia Responsible Beverage Service Program, was originally conceived of in British Columbia by the hospitality industry . During the 1987 Liquor Policy Review many individuals and groups representing the hospitality industry, as well as social and health care agencies, made submissions to the policy review committee. They indicated that, in order to be effective, alcohol education must be expanded to include what was then termed a "licensee and server training" program. They believed that, while many people in the hospitality industry understood their legal rights and responsibilities very well, a standard awareness program should be developed to ensure that everyone had a common information base and worked to a common, high standard of responsibility in the service of liquor. As a result of these submissions, the development and implementation of a server and licensee training program was recommended to government by the Liquor Policy Review Committee. In December of 1987, Cabinet reviewed the Committee's report and accepted these recommendations.

Program Objectives

In order to understand how the program evolved and how it is currently structured, we must first look at the objectives of both government and the hospitality industry in B.C.'s Responsible Beverage Service Training Program. As I have already noted, the impetus for the development of a British Columbia Responsible Beverage Service (RBS) Program came from the private sector, specifically members of the hospitality industry and their associations. The interests of the hospitality industry in a Responsible Beverage Service Program differ somewhat from those of government.

The hospitality industry is primarily interested in:

- Improving customer service;
- Improving staff performance;
- Protecting profits;
- Limiting legal liability; and
- Responding positively to the public's changing consumption patterns.

The government's interest in RBS programs reflects a broader range of concerns. Increasingly, the government is the target of public outcry over the problems associated with alcohol abuse, such as drinking and driving. Public concern over the negative impacts of alcohol abuse was a critical factor in convincing the Liquor Policy Review Committee of the need for government action. Accordingly, the main objectives of government involvement in RBS programs are:

- To protect the public by helping to prevent the social and health problems associated with alcohol abuse;

- To reduce the incidence of problems in licensed establishments such as service to minors, overservice and service to intoxicated persons;

- To provide information concerning the Liquor Control and Licensing Branch's policies and procedures regarding the operation of licensed establishments.

The RBS program, aimed at altering the drinking environment, complements other public health initiatives aimed at alcohol related crime prevention (CounterAttack Program), alcohol and drug awareness programs, and substance abuse treatment programs offered by the Ministry. However, although the objectives of industry and government in supporting RBS training differed, they were not incompatible. The challenge facing British Columbia was to develop a program that would somehow tie these objectives together.

Program Development

Because industry had spearheaded requests for a program, the industry was expected to participate in and assist in all stages of program development and implementation. Consequently, in designing and implementing the program, the Ministry of Labour and Consumer Services (through the Liquor Control and Licensing Branch) consulted extensively with hospitality industry organizations. Drawing on industry input and the experience of other programs in North America, a unique British Columbia Responsible Beverage Service Program was developed which is the result of a partnership of government and the hospitality industry.

The program was developed jointly by government and industry over a two and a half year period. Course material was developed under contract to the Liquor Control and Licensing Branch. A joint industry/government steering committee consisting of the B.C. and Yukon Hotels Association, the Cabaret Owners' Association of B.C., the Neighbourhood Pub Owners' Association of B.C., the Restaurant and Foodservices Association of B.C., and the Liquor Control and Licensing Branch has provided ongoing policy direction and reviewed course materials.

Since the practical problems encountered by licensees and their staff are very different, two training programs were devised targeted specifically at each group: the first aimed at licensees and management of licensed establishments, and the second aimed at servers employed in licensed establishments. The courses cover the following topics:

- The law relating to the service of liquor;

- Liquor Control and Licensing Branch policies relating to overservice;

- Facts about alcohol and its effects on the body and behaviour;

- Problems associated with excessive alcohol consumption; and

- How to recognize and deal with intoxicated persons.

The courses are structured to cover three main themes: identification, prevention, and finally, intervention. Both courses place a great deal of emphasis on preventing problems in licensed establishments before they occur. Licensees and managers are given more extensive training in areas such as legal responsibilities and the use of responsible management policies and procedures for the operation of a licensed establishment is encouraged. For servers, the course focuses on strategies for effectively handling customers.

In general, both courses are designed to:

- Raise awareness about the alcohol abuse problem and the server's/licensee's role in preventing abuse;

- Teach a new set of skills;

- Modify attitudes about alcohol; and

- Redefine the relationship between the server/licensee and the customer.

The RBS program was conceived as being mandatory for all categories of licensees and servers. The relevant legislation mandating train[illegible] been designed so that the person or persons responsible for or who participate in establishing house policy with respect to liquor will take the licensee course. Those who have direct contact with patrons of the establishment will take the server course. The purpose of the legislation is to ensure that those responsible for controlling the service of liquor in the establishment are aware of their responsibilities and have developed house policies to safeguard that control. Beyond certain minimum requirements, it is left to the discretion of the liquor licensee, exercising prudence and due diligence, to determine how many people employed by the licensed establishment should take the licensee course. The industry requested that this program be mandatory for several reasons: to ensure universal compliance; to facilitate hiring in the industry; to ensure the continuing economic viability of the training program; to preserve the lowest possible fee structure; and to ensure all members of the hospitality industry understand and adhere to the same high standards of responsibility in the service of liquor. The implementation of a mandatory program necessitated special consideration of the following factors affecting implementation:

- The program had to be accessible in terms of location, cost, and frequency;
- A phase in strategy was required to accommodate the estimated 75,000 participants; and
- Program standards had to be consistent across the province.

Program Implementation

A key component of the B.C. implementation model is the ongoing involvement of the hospitality industry. The Hospitality Industry Education Advisory Committee (H.I.E.A.C.), an existing, private, non-profit society is responsible for delivering training in the industry. H.I.E.A.C. is responsible for:

- Program delivery arrangements;
- Program delivery schedules;
- Developing and maintaining a regional/community support network to provide local assistance regarding program scheduling, logistics arrangements, and industry communications;
- Implementation of marketing/communications activities;
- Distribution of materials;
- Orientation and monitoring of course leaders.

A mixed delivery system is being used, involving a network of colleges and vocational schools, and public and private sector hospitality industry trainers. The involvement of both public and private sectors in program delivery is consistent with the concept of a joint government/industry initiative. Course leaders have been selected by H.I.E.A.C. for their experience in the hospitality industry and class leadership skills. While government financed program development has provided assistance to H.I.E.A.C. with start up operating costs, industry is taking responsibility for delivery costs through the use of a participant fee of $65 for the licensee course and $38 for the server course. The program was launched in October, 1989, across the province. Participation is being phased in, beginning with licensees. Research has shown the importance of ensuring licensee and management commitment to the responsible service of alcohol if any positive change is to occur. Licensees' participation is being phased in first for several reasons:

- The realization that prevention through the use of responsible management policies is a more effective tool than intervention;
- The recognition that staff turnover is high in the hospitality industry relative to other occupations; and
- The recognition that servers cannot effectively apply intervention techniques without management support.

Between the October, 1989, launch and March 23, 1990, more than 6000 of the province's approximately 6500 licensees had obtained training. Successful completion of the course is a condition of liquor licence renewal effective March 31, 1990. Training for servers will become mandatory in 1991, on a date yet to be announced.

In its first six months of operation, the program has been well received by most members of the hospitality industry. However, as with any new program, some implementation problems have arisen which are currently being addressed by the Steering Committee. These issues are summarized below:

The Universal Application of Programs

The program was initially conceived of as universal for all categories of licensees and servers alike. However, the application of this principle to the following categories of licensees and servers is under review:

- Volunteer organizations using non-paid servers;
- Small, owner-operated businesses;
- Seasonal operators such as ski resorts;
- Special occasion licensees;
- National rail and air carriers; and
- Public and private sector liquor stores;

Course Delivery in Remote Locations

Options are currently being considered to address the needs of licensees/servers located in remote areas without reasonable access to standard classroom delivery. This issue is expected to become more important once all current licensees have obtained training and participation rates drop dramatically. One option that is being considered is the modification of course materials for use as a distance education self-administered package. A second but related issue concerns employers using either corporate trainers or a recognized private training program with a substantially similar curriculum.

Communication with Participants

The RBS program responded to identified industry needs and was built around consultation with industry associations which had direct input through a steering committee. However, industry association membership is not universal and does not appear to represent the full spectrum of concerns.

In addition to channelling program information through industry newsletters and annual general meetings, the Liquor Control and Licensing Branch also directly contacts licensees through direct mailings. In addition, methods of improving communications between industry associations and their members are being explored.

These issues are being addressed by the steering committee along with plans for the phase in of the server training program which will occur sometime in 1991. From the outset, it was contemplated that the courses would be adapted over time as feedback was received to ensure that they satisfy the needs of participants. While the public reaction to the program has been generally positive, the program must be continually improved and updated as required to ensure it addresses the objectives of both the hospitality industry and the Liquor Control and Licensing Branch. British Columbia is pleased to be the first province in Canada to become involved in a Responsible Beverage Service Program, and hopes that our experiences will be of benefit to other jurisdictions considering implementation of a similar program.

SAFE RIDE HOME PROGRAMS: A PRACTICAL ALTERNATIVE TO DRIVING DRUNK

OPÉRATION NEZ ROUGE

Dr. Jean-Marie De Koninck

Dr. De Koninck is the President of Opération Nez Rouge

In 1984, I set up a free private chauffeur service for motorists who had had a "little too much to drink". This service was entitled Opération Nez Rouge. It now operates every year during the Christmas holidays in more than 280 municipalities across the Province of Quebec. Because of its original and positive approach, the program has obtained wide support from the public and has succeeded in changing behaviours regarding the problem of drinking and driving. In December 1989, 14,700 volunteers were involved in providing this private chauffeur service to some 20,300 motorists.

First I would like to provide a brief history of Opération Nez Rouge . Besides being a professor of mathematics at Université Laval in Quebec City, I am also a coach (in my spare time) with the Laval University Swimming Team (Club de Natation Rouge et Or de l'Université Laval). In the fall of 1984, I was looking for a fund raising activity that would allow us to give scholarships to student-athletes willing to register at Laval and to join the varsity team. One day, I heard the statistics on fatal accidents caused by impaired driving. In an interview, a bartender said that his customers did not want, at "closing time", to leave their car at the restaurant (or bar) and take a taxi home, because, as he explained, "drivers" like to have their cars with them at all times. This gave me an idea: to offer a free "chauffeur service" to those who would like to go home after a "social evening" or on any other occasion. I then talked about my project to a morning man at a radio station (CHRC) and also to the head of police in Quebec City. They both thought it was a great idea and helped me run Opération Nez Rouge for the first time from December 13th to December 23rd, 1984. It was a great success, mainly because of the positive aspect of the program and also because of its humorous approach. The first year, 250 volunteers helped run the Operation, 463 "clients" called for the service, and some $25,000 was raised during that period (contributions coming from tips and donations from private companies).

Each year since, during the Christmas period, for a period of approximately three weeks, the free chauffeur service of Opération Nez Rouge is offered to those drivers who think that they cannot safely drive their cars. Last year (in 1989), the service was offered in 280 cities across the Province of Quebec. For this "expansion" of Opération Nez Rouge across the Province, we received significant financial support from the Régie de L'assurance Automobile du Québec and from the Groupe Desjardins Assurances Générales . In 1989, Opération Nez Rouge was operated by 34 non-profit organizations, who obtained support from a local radio station and from the local police. They also gave their profits (obtained from Nez Rouge) to youth associations. These requirements are part of a contract signed between each local organization and the Corporation Opération Nez Rouge of which I am the President. In 1989, over 20,300 drivers used the service, and 14,700 volunteers were involved in the program, mainly as chauffeurs . In 1989 alone, the 34 Opérations raised a total of $400, 000 for the benefit of youth organizations.

In 1988, we signed a contract with the sports Department of Dalhousie University, which held Opération Nez Rouge in Halifax. In the southern part of France, an Opération Nez Rouge will be organized in 1990.

The support given by the Régie de L'assurance Automobile du Québec and from the Groupe Desjardins Assurances Générales allows the Corporation Opération Nez Rouge to hire four staff members which help control the 34 Opération Nez Rouge established across the Province and whose organizers sign a contract with the Corporation. The following services are provided by the Opération Nez Rouge Corporation:

- Expertise on how to establish Opération Nez Rouge and how to run it. An "Operational Manual" is provided to the local organizers;
- Television publicity across the Province;
- Promotional items adapted to each municipality or region (posters, handouts, etc.) are distributed to the local organizers;
- The mascot Nez Rouge (at a moderate fee) is rented to each local organization. Upon invitation, the mascot also visits parties and high schools, encouraging everyone not to drink and drive;
- A poll taken among the clients of Opération Nez rouge is organized province wide; feedback is then given to the local organizers. This poll also helps us study our client's behaviours;

Although Opération Nez Rouge runs only during the month of December, it does have a much longer effect on the behaviour of Quebec drivers. Indeed, the Operation is so popular, that each year it receives tremendous support from the media and the general public. It has given rise to several initiatives from different social groups who organize some kind of transportation to and from parties. It is not uncommon to hear in a restaurant, in the middle of July:

"Be careful, we do not have Nez Rouge! ", hence encouraging people to either adopt moderation in their drinking habits or to use different means of transportation (other than driving their own car).

Moreover, we have had indications from different sources that indeed the program has some positive effects on the behaviour of drivers regarding impaired driving. Here are a few:

- Provincial police and local police have confirmed that during the Christmas holidays, there are fewer drivers caught "drunk";
- According to the Régie de L'assurance Automobile du Québec, the number of car accidents due to alcohol, in the Province of Quebec, has diminished by one-half from 1985 to 1989;
- Statistics Canada, in July 1989, confirmed that, in 1989 compared to the other provinces, Quebec had proportionally the least number of drivers apprehended with a BAC over 0.08. (Five years ago, it was one of the worst);

The following positive secondary effects have also been reported:

- Party organizers report that their guests show more moderation while "celebrating"
- Due to the positive side effects of Opération Nez Rouge to Quebecers' health, the Quebec Minister of Health has given financial support to Opération Nez Rouge.

The main reason for the popular success of Opération Nez Rouge is the fact that our approach is positive (even humorous!), and hence we do not attempt to "moralize" people or to threaten them! Although tough laws are a must, especially in this area, our program comes in as a complement to all the existing campaigns. In this sense, Opération Nez Rouge is a nice complement to the campaign conducted by the Régie de L'assurance Automobile du Québec and called "L'alcool au Volant, c'est Criminel.".

PROJECT SAFELY HOME

Tim Rose

Mr. Rose is the Finance Vice President of the Mount Royal College Student's Association

General Description

Project Safely Home is a volunteer run program that attempts to prevent possible driving under the influence during the Christmas season. If a person who has been drinking calls us for a ride home, we will send two volunteers out to drive the person in their own car home, free of charge.

History

Project Safely Home (PSH) was started in 1987 by the Mount Royal College Engineering Society. The program was based on a project that is run annually in Quebec called Opération Nez Rouge (with whom Project Safely Home has no association). In the first year, PSH was run in a small area of the city, and with 13 volunteers, the program drove home approximately 25 cars over a ten day period.

In 1988, PSH went city-wide and recruited over 60 volunteers to drive people home. With the larger size of the program, we drove home over 200 cars in a 13 day period. We received positive responses from many different areas. In August, Project Safely Home was invited to present a seminar at a conference for Alcohol Awareness on post-secondary campuses across Canada.

Along with creating an awareness of the dangers of drinking and driving, we were able to help over 200 people get home without incident.

Organizational Structure

Project Safely Home was able to have three of the five previous co-ordinators return to set-up the 1989 operation. In preparation for the program we were also able to get one of our prior volunteers to take up a co-ordination position. The duties of each co-ordinator were clearly set-up prior to approaching any of the sponsors. Due to the amount of work that the co-ordinators had to do prior to the operation of the program, we were able to set up a new type of system to separate the duties of operating the program amongst more people. PSH consists of five co-ordinators who will work to getting all of the sponsorship of the program. There is also four volunteer co-ordinators who go to each of the post-secondary campuses to recruit volunteers to drive and answer the telephones. And for the actual running of the program, we will have up to five supervisors who will be responsible for the operation of the program each night. This will get more people involved in the set-up of PSH and allow more time for each person to complete their duties.

Project Operations

The way in which the program operates can be broken down into the following steps:

- The service is requested via telephone by a person who has been drinking, and feels that they are unable to drive home safely;
- One of our vehicles (vehicle #1) is dispatched to the person's location with two volunteers that are assigned together at the beginning of each operation night;
- The volunteers locate the caller upon arrival, and ensure that the caller is comfortable with them driving their car home. Drivers will wear a PSH button so that they are easily recognized;
- One of the volunteers drives the intoxicated person's vehicle home (vehicle #2) while the other volunteer (vehicle #1) follows closely behind as to not get separated from each other;
- When both the vehicles arrive at their destination, the two volunteers notify the dispatcher they are free to respond to the next call. If no call is awaiting them, they return to the base.

Daily Log

Each night of operation, the supervisor is responsible for keeping a record of the number of calls that were received, the number of drivers that are in each night, and the waiting time involved for each call.

The following chart is a log of the daily operations for 1988, and the 1989 operating years.

Date	**Calls**		**Volunteers**		**Waiting Time**	
	'88	**'89**	**'88**	**'89**	**'88**	**'89**
Dec. 20	15 (T)	3 (W)*	15	8	20 min.	20 min.
Dec. 21	16 (W)	11 (T)	16	12	25 min.	30 min.*
Dec. 22	18 (T)	27 (F)	15	11	25 min.	30 min.
Dec. 23	39 (F)	14 (S)	16	8	45 min.	45 min.
Dec. 24	9 (S)	10 (S)	10	5	20 min.	20 min.
Dec. 26	4 (S)	10 (M)	9	8	20 min.	20 min.
Dec. 27	6 (M)	9 (T)	14	6	20 min.	30 min.
Dec. 28	8 (T)	11 (W)	8	9	20 min.	20 min.
Dec. 29	9 (W)	12 (T)	9	9	25 min.	35 min.
Dec. 30	12 (T)	11 (F)	13	8	25 min.	20 min.
Dec. 31	55 (F)	70 (S)	25	33	90 min.	40 min.
Jan. 1	2 (S)	-------	7	----	20 min.	---------
Jan. 2	3 (S)	-------	7	----	20 min.	---------
Totals	**201**	**188**				

*** denotes bad weather ( ) denotes day of week**

These data indicate that there are particular dates in which we are, and will be in high demand. These dates tend to be the Fridays and Saturdays throughout the project. This year compared to last year was more steady on the off nights and each night had a similar number of calls.

Sponsorship

The following companies sponsored Project Safely Home '89:

The Students' Assoc. of Mt. Royal College

The Rotary Club of Calgary

CKRY-FM Radio

Soundsaround

Altex Resources

Shell Canada

Canada Safeway

Calgary Co-op

Calgary Honda

T & T Honda

Shoppers Drug Mart

Food City

Freybe Sausage Ltd.

Chinook Optical

Kentucky Fried Chicken

Big Rock Brewery

Drummond Brewery

Capitol Appliance Ltd.

Problems/Recommendations

As with every project, there are always some problems. The major problem with this project is the number of requests that we get to run the project for company Christmas parties prior to the program's starting date. This situation can be remedied by running the program on Friday and Saturday nights throughout December prior to the first day of operation. This is, of course, dependent upon the amount of sponsorship that is received, and the number of volunteers who are willing to work those nights.

SANTA BARBARA COUNCIL ON ALCOHOLISM AND DRUG ABUSE

Penny Jenkins

Ms. Jenkins is the Executive Director of the Santa Barbara Council on Alcoholism and Drug Abuse

The Safe Rides Program in Santa Barbara, California, is an outgrowth of a program originally developed by the Boy Scouts of America. The Junior League of Santa Barbara became interested in the program for a League project. As a member of the Junior League, The Boy Scouts, The Highway Patrol, and the Santa Barbara Council on Alcoholism and Drug Abuse (SBCADA) combined the two programs into Friday Night Live (FNL)/Safe Rides in 1988. The Junior League provided adult supervision, the SBCADA provided the alcohol and drug expertise as well as a facility, the Boy Scouts provided insurance coverage, and the Highway Patrol provided patrolman to narrate assemblies and statistics to evaluate the program.

On June 1, 1989, the Junior League turned the program over to the SBCADA and some changes were made. Adult supervision is now provided by University of California Santa Barbara students. This works very well in that the various fraternity and sorority houses take turns doing supervision on assigned weekends. High school students look up to the college kids, and as result, more high school kids are getting involved.

Friday Night Live (FNL) is the companion program for safe rides. Students who belong to FNL are responsible for the education of students on alcohol and other drug issues and providing fun sober activities. Each high school has an FNL chapter, an FNL advisor, and an FNL student leader. As you can see, safe rides is only one component of the Friday Night Live Program.

The purpose of the Safe Rides Program is to provide a free and confidential safe ride home to any teen who is not in the condition to drive safely, or to any teen who wants to avoid being a passenger in such a situation. Safe Rides is a program which holds the potential for changing attitudes about driving while drinking; the students' concern for the safety of their community members should lead to a greater appreciation of both the risks and responsibilities associated with driving while impaired. (Safe Rides team members have agreed to keep all details of their service activities confidential.)

An adult advisor is on duty for the students to consult if they need help. If any further assistance is needed, the crew may contact the Safe Rides' advisor.

Every Friday and Saturday night from 10:00 p.m. to 2:00 a.m., at least four high school students and an adult volunteer gather at the Safe Rides headquarters. One student is the dispatcher, handling all incoming telephone calls, as well as maintaining contact via two-way radio or beepers with the safe rides' car(s) out on call. There is a driver and a passenger which must be a male/female combination for safety reasons. Each driver uses his or her own car and is accompanied by a navigator who is responsible for radio contact with the home base and the maintenance of minimal information which includes departure times, pickup times, addresses and passenger names. This information is required for insurance purposes.

That the program is effective is shown by statistics reflecting a decrease in arrests of teenagers under the influence and a decrease in teenage driving fatalities. The safe rides telephone number is known by most high school students and is well used since they encounter no negative consequences. Trust is a critical element of the Safe Rides Program.

Finally, with all the pieces and players in position, it is also important to remember one last detail. Safe Rides must be a **cool program!!**

CHAPTER V:
COMMUNITY ACTION
COMMUNITY ADVOCACY GROUPS: THE PUBLIC SPEAKS OUT

STUDENTS AGAINST DRIVING DRUNK

William F. Cullinane

Mr. Cullinane is the Assistant Director for SADD

Students Against Driving Drunk, (SADD), founded by Robert Anastas in Wayland, Massachusetts in 1981 is the most successful citizen activist organizations dealing with the issues of drinking and driving, underage drinking and drug abuse. There are over 20,000 chapters in middle schools, high schools and colleges throughout the world. Chapters are growing throughout Europe, the Soviet Union, Canada, Australia, New Zealand, Japan and sections of Africa and Latin America.

SADD is based on the concept of empowerment, i.e., young people are reminded that they are capable of changing their own behaviour. Too often we have heard that what we need in drug and alcohol education is more on chemical facts or an in depth understanding of the laws. Just as black coffee and cold showers produce "wide awake, wet drunks", the fact approach to drug and alcohol education results in well informed drug users.

Empowerment assails the very basic concept of the drug as the enemy. It is perhaps old and trite, but basic. SADD is saying, we have met the enemy and it is us. To that end a change in behaviour can only happen from within.

SADD works because it says to young people, "you are intelligent, you are capable and you have the choice regarding the use of drugs." The strong message delivered to young people is that caring, both self and extended can change the statistics on underage drinking, drug abuse and drinking and driving. SADD relies on the positive approach both in its message, "Look at what power you have," and the emphasis on positive peer pressure.

SADD provides a platform for young people to stand and proclaim their beliefs to care for themselves and others and obey the laws regarding alcohol and other drugs. That positive platform has extended to include over four million people.

These young people have reduced their death rate due to drinking and driving from over 6,000 in 1981 to just over 2,000 in 1988. The National Highway Traffic Safety Administration has labeled this success as the most significant reduction in any age group.

The original SADD, Students Against Driving Drunk at the high school level has expanded to include several new elements.

The middle school program is Students Against Doing Drugs, which stresses to young people the power they have to eliminate drug and alcohol abuse in their lives. The college program includes a student, an administrator, and a faculty educator component. The approach asks the SADD chapter to assess the current alcohol and drug services on campus. The SADD chapter then acts as a catalyst to tie all existing efforts together. The next step is to seek assistance on filling in those areas where there is a lack of services. The Contract For Life at that level is between friends, not parents and students. This program has achieved remarkable growth in the past few years. There are over 1500 colleges and universities with SADD chapters.

Our new program, Student Athletes Detest Drugs is for all levels, middle schools, high schools, and colleges. Athletes receive the same type of empowerment message. They join together as a team and proclaim through a public pledge that they will not engage in underage drinking nor use drugs. This pledge on drugs is not for a season or a year, but for life. The athletes then wear stickers on their uniforms, helmets, sticks, etc., proclaiming that they are members of Student Athletes Detest Drugs. A banner is displayed at the games, meets or events stating they are proud members of SADD, Student Athletes Detest Drugs. Teams also wear hats, sweatshirts and t-shirts that display the Student Athlete Detest Drugs message. This positive platform spreads as students see their power. This is the most dynamic and successful model for dealing with drugs, alcohol and those issues whereby the solution lies within ourselves.

We have the power to determine a great deal in our lives. When we talk about the "war on drugs" we must define where the "war" takes place. It is a"war" in us. We have the power to win this war. Our efforts must be turned to the problem - it is us. SADD has said to young people, be a friend for life and give a moment of your time to make a lifetime of difference to yourself and others.

PRIDE: ONTARIO

John Bates

Mr. Bates is the President and Founder of PRIDE

If we believed what we read in the press these days, no one could blame us for thinking that the battle against drinking and driving has been won, that the roads and highways are safe, and we can all rest easy and pat ourselves on the back for a job well done.

The press has all but forgotten impaired driving and is now having an apoplectic fit about illicit drugs, and thinks marijuana, crack and heroin represent the most pressing social problem facing society today. Well, you know and I know that is simply not true.

Last year in Canada, according to the Addiction Research Foundation of Ontario, there were about three hundred drug related deaths. But by comparison, 18,000 Canadians died from one form or another of alcohol abuse.

One out of every 10 Canadians dies an alcohol related death, and the most preventable and the most tragic of these are, of course, caused by impaired driving automobile crashes. Impaired driving in this country still kills about 2,500 Canadians every year. Another 130,000 are either seriously injured, or permanently maimed by impaired drivers. The cost is a staggering $1.5 million in property damage alone.

Impaired driving is still the largest single killer of our young people. A full 40 percent of all those killed on our roads are under the age of 25. In fact, automobile crashes kill more of our young people than all other causes of death combined. And these figures are very probably on the low side, because of the flaws in the methods of gathering the statistics. They don't take into account all the crashes where no charge is laid, either because the police are too busy saving lives, or there is no outward sign of impairment.

Still, according to the National Survey on Drinking and Driving recently released by Health and Welfare Canada, impaired driving is this country's most serious social problem. Canadians right across the country consider the carnage on our roads and highways caused by drinking drivers to be a more serious social problem than AIDS, family violence, drug use, racism, or anything else. And that reflects similar studies done about eight years ago, when this campaign was still in its infancy.

Nothing much has changed in nearly a decade of effort. Oh sure, we can point to a lower fatality rate, but that is not a result of a lower impaired driving crash problem, because the rate of serious injury is going up as the death rate decreases. And we don't have to look very far to find the reason for that anomaly.

The last decade has seen a greater use of seat belts, the introduction of much safer automobiles with ABS breaking systems, superior radial tires, improved child restraint systems, halogen headlights, third high-mounted brake lights, daytime running lights, all of which have made their contribution to a lower fatal crash rate. But none of this has had much effect on the incidence of impaired driving, or impaired driving crashes. And unfortunately, the battle against impaired driving, while it has seen spectacular success in some areas, has been a miserable failure in the one aspect that really matters.

First, let us look at what has been accomplished. There is little doubt that the problem has been brought to the forefront. Most people realize that drinking and driving is no longer as socially acceptable as it once was. Public awareness of the problem has reached the 100 percent level. Unless a person has been on Mars for the past decade, they know about the evils of drinking and driving. I can't think of any campaign that has been as successful as this one has in raising public concern. Laws have been changed in the various provincial legislatures. The courts across the country are beginning to send out a message that this is a serious Criminal Code offence. A typical sentence in Ontario ten years ago was a $500 fine and a 90 day licence suspension for killing while driving impaired. Now, while we see too many sentences of two years less a day in that province, we are also beginning to see sentences of up to six years.

PRIDE has been successful in convincing the provincial government to put driver's pictures on their licences to enable police to more easily identify drivers. The one year mandatory licence suspension was instituted because of our urging. Happy hours were banned several years ago. We were instrumental in the formation of the Attorney General's Countermeasures Office after we asked the former Premier William Davis to form a task force to study the problem, pointing out that the scope of the problem was beyond the capabilities of a volunteer group. PRIDE was instrumental in getting tougher laws written into the Criminal Code of Canada after several trips to Ottawa. We have assisted more victims, spoken to more groups, put up more mall displays, helped more reporters get their impaired driving story, been on more talk shows, written more briefs than I care to even think about. Clearly, much has been done. So why hasn't the battle been won? Well, for several reasons, and perhaps John Buchan put it best when he said, "No great cause is ever won or lost. The battle must always be renewed...the creed must always be restated." That's what we must keep in mind now. The press has tired of the campaign and the cause. And that is partly our fault. If our chore now is simply to keep on keeping on, we must move the campaign to a whole new plateau, and use the knowledge we have gained over the past decade of the struggle, and not rely so much on the public awareness aspect...the bumper stickers, the awareness campaigns and slogans...but seek new, effective solutions. We can no longer look at impaired driving in isolation. We have been, in effect, treating a symptom rather than the disease. We know, for example, that the serious crashes are caused by drivers with a BAC of 165 or more...the problem drinker. We also know that about one third of these serious, personal injury or fatal crashes are repeat offenders...again...the problem drinkers. Obviously, anyone who feels he or she must drive while impaired, and risk a mandatory jail term, and a minimum two year licence suspension, has a real drinking problem. It is also clear that this particular group of drivers simply do not respond to slogans, bumper stickers, or public awareness campaigns. We have reached probably 90 percent of the responsible drivers, but we have not yet reached the root of the problem. We know a lot about those who are most likely to cause a serious alcohol related crash. Clearly, it is the heavy drinking risk taker.

It is often persons who have a lot of problems in life, which tend to make them aggressive, and transfer this aggression to their driving. Because they have these problems, they drink heavily, and when they combine that with driving, become a potential killer on the road. So the only pertinent question is...what do we do now? If, as most experts contend, impaired driving is really a form of alcohol abuse, then it should be quite obvious that unless we can reduce the incidence of alcohol abuse, we cannot reduce the incidence of the carnage caused by impaired drivers. With this in mind, PRIDE has added new goals and objectives.

Raising the Legal Drinking Age to 21

If we can do but one thing, raising the drinking age to 21 would be it. The evidence coming in from the United States now shows with great clarity that this move is long overdue.

Legislators, who profess great concern for the problem, refuse to look at this as a solution. So far they have refused to form a task force, and in so refusing have shown that they are more afraid of the light than the dark. They don't want to know the truth. Their refusal reminds me of the bishops, who refused to look through Galileo's telescope, because they were afraid that he might be right. When the United States can get 17 precent to 27 percent decreases in alcohol related fatalities, then it is nothing short of irresponsible for our governments not to a least look at the results.

Alcohol-Assessment for All Convicted Impaired Drivers

We know that the alcohol abusers are the ones most likely to cause the serious injury and fatal crashes. We must take steps to recognize them as early as possible and get them off the road. All first offenders must go for alcohol assessment, and if they do have an alcohol problem they don't get their licence back until they can demonstrate to a medical tribunal that they no longer have a problem.

Permanent Licence Suspension Offence

Those involved in this struggle are angered every time we hear of another victim killed by a driver who has had several previous convictions. Well, there must be no third offenders on our roads. We want, and are working toward permanent licence suspensions for all those convicted on a second offence. There is now no excuse for a first offence in this day and age. A second offence is simply unacceptable.

A Ban on All Forms of Lifestyle Alcohol Advertising

It is quite impossible to convince our young people that impaired driving is wrong, while the beer companies spend nearly $200 million dollars telling them that just about every other glamourous activity is only possible if they have a case of beer. The whole idea of formula one races sponsored by beer companies, with the complicity of government, is repugnant. For provincial governments to allow the Molson Indy in Toronto, and Vancouver, is reprehensible. Statements like..."When it comes to racing, Ex says it all"...are obscence. The use of automobiles in beer commercials is about as ugly a form of corporate irresponsibility as can be imagined.

Administrative Licence Suspension

Police should be empowered to suspend the licence of any driver who has a BAC of over .08, on the spot. There is a real problem with drivers who are charged with impaired driving, but continue to drive until their trial date, which may well be a year later. We hear of people only too often, being killed or injured by drivers who are awaiting trial. Manitoba is to be commended for taking the action they have in this respect, but it is time for other provinces to follow their lead.

Graduated Licences

Because new drivers, young or old, are most likely to get into collisions, we must develop a system of permitting new drivers to learn in an atmosphere of greatly reduced risk. This is best accomplished by restricting the driving privileges of new drivers until they gain the experience and skills required for an unrestricted licence. The first level, for example, would limit all new drivers to daylight hours, limit the number of their passengers to an adult, licenced driver, and limit them to the safer roads, with lower speed limits. One of the problems has been that young drivers tend to pack a bunch of their friends into a car, then drive to parties, at night, and if a crash occurs, several passengers are at risk. It is quite clear that there are drivers on our roads who ought not be driving anywhere.

We must introduce a driver training, and driver licencing system that ensures that only those who can drive safely can drive at all. Obviously, all of these programs are only a part of the solution. But let me leave you by repeating John Buchan's quote which, I believe, is the watchword for the future of this movement, because the best we can do is chip away at the mountain:

> *No great cause is ever won or lost. The battle must always be renewed...the creed must always be restated.*

ALCOHOLISM AND DRUG ABUSE COUNCIL OF NEBRASKA

Kathleen Nelson-Simley

Ms. Nelson-Simley is the Youth Network Director for the Alcoholism and Drug Abuse Council of Nebraska

Agency Description

The Alcoholism and Drug Abuse Council of Nebraska (ADACN) is a non-profit, private agency. Established in 1979, the Council is a state affiliate of the National Council on Alcoholism and Drug Dependence, providing alcohol and other drug prevention services statewide. The Council includes a staff of 16 professionals.

Agency Philosophy

The overall approach of the Council's programs is to educate key community members, including young people, to use their influence to shift community norms about the use of alcohol and other drugs. The ultimate goal is for communities to follow standards of alcohol and other drug use in which no one uses illegal drugs or tobacco, young people do not use alcohol, and adults either abstain or consume small amounts of alcohol that do not result in impairment.

In all of the Council's programs, a consistent core of information is transmitted. This core presents alcoholism and other drug problems as a health problem rather than moral or emotional weaknesses. Quantity and frequency of consumption is a key determinant in the occurrence of immediate and long-term problems. Psychological, social, and family influences either encourage or discourage alcohol and other drug use. Dependency has a biological basis and the quantity and frequency of use, in combination with genetic/biological susceptibility, determines whether or not the illness of alcoholism or other drug dependency will be expressed. Clear guidelines are available for alcohol, other drug and tobacco use by all community members which, if followed, will eliminate problems caused by alcohol and other drugs.

Children should avoid tobacco and illegal drugs permanently, and should abstain from alcohol until of legal age. When a young person reaches the legal age of alcohol consumption, he or she should then decide to continue to abstain or to follow the Adult Alcohol Use Standards.

Adults should avoid tobacco and illegal drugs permanently, and either abstain from alcohol or follow the Adult Alcohol Use Standards that apply to them. The Standards are based on the Surgeon General's recommendation of no more than two drinks in any day.

The Standards also call for avoiding alcohol either temporarily or permanently under certain circumstances. Included in the category of recommended permanent abstinence, among others, are those individuals with family histories of alcoholism, and those individuals who are currently experiencing or have experienced alcohol and other drug problems. Included in the temporary abstinence category, among others, are persons who are participating in activities that require full mental or physical functioning, such as driving an automobile, along with women who are pregnant or nursing, and people taking medication.

These standards form the basis of the information contained or presented in all of the Council's programs. The ultimate goal of the Council is to have every Nebraska community and its members follow and promote these standards.

History of Prevention in Nebraska

Nebraska is a large, rural state with a relatively small population of 1.6 million people. Nearly half of the population is located in or near its two largest cities, Omaha and Lincoln. Other than four medium-sized cities, almost the entire state is rural, the landscape dotted by many small farm communities.

Because of the small size of communities, long distances, and lack of available funds for prevention, most small communities in the state had little access to prevention services.

Nevertheless, Nebraska faced severe alcohol- and other drug-related problems. According to the Division on Alcoholism and Drug Abuse, Department of Public Institutions, approximately 80,000 people had alcohol and other drug problems severe enough to require treatment services.

In addition, research conducted by the University of Nebraska (Adolescent Drug Use In Nebraska, 1988) indicated that young people in Nebraska use alcohol and other drugs at rates at least comparable to the national average, and that there appears to be little, if any, difference between rural and urban use of alcohol and other drugs. Nebraska youth are as much at risk for problems resulting from alcohol and other drug use as any American youth.

Faced with the problem of significant alcohol and other drug problems among both adults and young people in Nebraska, and the lack of available prevention services outside of the major cities, in 1986 ADACN developed a plan to provide comprehensive, low-cost prevention services to communities across the state.

In the fall of 1986 through mid 1987, the Council applied for and received a $35,000 grant for Community Organizing for Prevention from the Nebraska Office of Highway Safety. This grant allowed the Council to hire a project director and to conduct four retreats in the first year of the project, training 21 community teams.

In the second year 33 teams were trained, and in the third year an additional eight teams were trained. Because of rapid expansion, the number of teams trained was limited in the third year in order to provide a year for intensive follow-up and technical assistance to existing teams. In the current year 24 additional teams will be trained of which 10 recently completed the training in January.

Near the end of the first year of the program it became apparent that the Council was headed in the right direction, but that further program development was necessary. During the retreats, community teams consistently identified three needs: programs for youth, programs for parents, and the need for a high quality school curriculum.

Based on these needs, the Council developed the following programs to assist the communities: "Proud To Be Drug Free" youth retreats, "Keeping Your Kids Alcohol and Drug Free...Setting the Limits" parent education course, and "Decisions About Alcohol and Other Drugs-Revised" school curriculum.

In addition to these other programs, other resources were made available to the community groups, including the Council's Clearinghouse resources, referral to other programs (SAFE HOMES, for example), and assistance in addressing public policy issues.

Over time, the secondary programs were made available to communities who had not yet sent teams to the Community Organizing for Prevention retreats. However, the core project and the primary aim involves a community group entering into a long-term relationship with the Council, attending the retreat and adopting the secondary programs as well as other programs made available in the state.

After it became apparent that the pilot approach was successful, other funding agencies began to lend their support. Today, the project has grown from one staff and a $35,000 grant to eight staff and an annual budget of over $270,000.

The "Community Organizing for Prevention" Retreat Model

The Community Organizing for Prevention Retreat Program is based on the following assumptions:

- That communities, or at least some members of communities, recognize their community's alcohol and drug-related problems and are willing to take action to reduce the same;

- That many low cost and creative options for effective prevention services are available to communities;

- That resources to assist communities are available and can be channeled into communities to reduce alcohol and other drug problems;

- That a variety of strategies aimed at different problems and target populations through various community systems is necessary to successfully reduce alcohol and drug problems; and

- That, if the responsibility for solving community problems remains within the community, there will be greater ownership of the programs by the community, making continuation and success more likely.

The goal of the Community Organizing for Prevention Program is to develop and support a statewide system of community task forces which develop and implement community-based prevention strategies.

Thus, the Community Organizing for Prevention Program begins with the recruitment of adult teams to attend a residential training retreat. The four-day residential retreats are offered in different locations throughout the state at different times during the year. A recruitment process has been developed which includes a public information campaign, a formal application process, and pre-retreat site visits by project staff. Communities are asked to underwrite a portion of the cost of the training at $65 per person to demonstrate commitment to the project. Council staff and volunteers from other programs, including local councils and previously-trained team members, serve as retreat staff. Project staff conduct facilitator training prior to each retreat. Retreat size varies from six to 12 community teams (40 to 100 participants), each team averaging six to 10 members each.

The retreat consists of four major components:

Education Sessions

Council staff and others cover a variety of topics, including the risk reduction approach to prevention, elements of successful prevention programs, alcohol and other drug use standards, issues dealing with adolescent use of alcohol and other drugs, high risk youth, community organizing techniques, public policy change, and family-based prevention approaches.

Team Planning Sessions

Participants are led through a planning process that includes identification of problems, identification of resources, prioritizing problems, and developing short-term and long-term goals and objectives. In addition, an initial committee structure is developed. Each team leaves the retreat with a written plan of action to implement.

Team Building

A number of activities take place during the retreat to mold the participants into a functioning team. These activities include taking the Meyers-Briggs Type Indicator Test, performing skits, participating in outside activities together, and participating in small group exercises designed to allow team members to express attitudes about alcohol and other drug use.

Exposure To Available Resources

Representatives from effective prevention programs from across the state are assembled at the retreat and discuss their programs with participants. Participants become aware of programs available to them and begin to network with others involved in prevention.

Adult teams automatically enter into the Community Organizing follow-up/technical assistance system. Services include on-site visits to team meetings by Council project staff and other identified resource people; regional networking meetings; advanced specialized training; reunion retreats; and regular information updates and newsletters. A special emphasis is placed on helping the community teams gain community acceptance and gain access to available resources. After initially working intensively with the communities, it is the Council's goal to gradually pull back and let the communities operate their own prevention programs independently.

Other Prevention Programs of the Council

The "Proud To Be Drug Free" Youth Retreats

The goal of the "Proud To Be Drug Free" youth retreat program is to provide a peer support system for junior and senior high school age youth through the development and support of a statewide network of alcohol and drug-free youth groups.

Two four-day youth residential retreats are held each July, either on a small college campus or at a youth camp. Normally, one retreat serves the eastern half of the state and one serves the western half. Retreat size varies from 100 to 200 participants.

As with the adult teams, a formal application process is required, including a detailed written application and pre-retreat visits by project staff. To demonstrate community commitment, attendees pay $75 (usually acquired through community fundraising). A youth team consists of six to 10 students, ranging from grades 8 to 12, accompanied by at least one adult sponsor committed to working with the youth team for a period of one year. Council staff, other adult volunteers, and youth staff serve as retreat staff. Each youth group or team is matched with an adult staff member and a youth staff member who serves as their team facilitators for the entire retreat. Project staff conduct facilitator training prior to each retreat.

The structure of the youth retreats is similar in many ways to the adult community retreats and contains five major components:

Educational Sessions

The risks associated with alcohol and other drug use by young people are discussed. Other topics include high-risk kids, especially those with alcoholism in their family; resisting peer pressure; designing alternative activities; and forming and maintaining an active alcohol and drug-free youth group back home.

Family Groups

A series of family group sessions are held to develop support among team members. Various activities take place in these sessions to build trust among members and to build strong relationships. Family groups are a highlight of the retreats, according to the feedback from the participants.

Planning Sessions

As with the adult teams, the young people are taught strategies on how to structure their group, increase membership, provide alternative activities, and community service, which often times involves working with younger children.

Retreat Workshops

Through retreat workshops the youth teams are exposed to programs they can bring into their local communities. Representatives from across the state are brought together during the retreat to discuss their programs with the young people. Drug-free clowning, mini-youth retreats, organizing "Just Say No" clubs for elementary children, are several projects presented to the participants.

Fun Activities

During the retreat, the young people experience many drug-free "highs", including team skits, "Spaghetti Slobfests", water balloon fights, ice cream sundae snarfing, and the highlight of every retreat, a dance with a limbo and hula hoop contest.

Youth groups have the opportunity of joining the Nebraska Network of Drug Free Youth upon completion of the retreat training. Developed and supported by project staff, this Network provides its member groups with regional meetings, reunion retreats, advanced summer retreats, specialized trainings (such as teaching refusal skills to younger kids), adult sponsor training, on-site technical assistance by project staff, and the youth newsletter, "Drug Free Times".

"Keeping Your Kids Alcohol and Drug Free...Setting the Limits" Parent Education Course

Another important program offered to the trained community teams (and others) is the Council's parent training course, "Keeping Your Kids Alcohol and Drug Free...Setting The Limits". Community groups are encouraged to develop their own trainers through the Training of Trainers seminars offered throughout the state. The research-based prevention course consists of six units, each lasting approximately one hour. "Setting the Limits", helps parents learn to communicate effectively and teaches them to set rules and expectations of abstinence for their children, and emphasizes the importance of role modeling, encouraging parents to either abstain or follow the Adult Alcohol Use Standards. The course explains biological susceptibility and presents alcoholism as an illness; teaches family strengthening techniques; develops skills to become community advocates; and provides a foundation to establish parent networks.

"Decisions About Alcohol and Other Drugs-Revised" School Curriculum

An additional advanced training opportunity for schools in trained communities is the junior high school curriculum, "Decisions About Alcohol and Other Drugs-Revised". This curriculum was developed by the Council as a companion curriculum for "Setting the Limits". The curriculum contains a clear no-use message and introduces students to the Adult Alcohol Use Standards. Children are taught to estimate their biological risk for alcoholism, are trained in refusal skills and consumer awareness, and are asked to complete a family alcohol and drug use expectations sheet with their parents. The curriculum includes lecture, role play, group discussion, exercise sheets, and daily journaling. The entire curriculum consists of 20 lessons, each lasting approximately 45 minutes.

Other Council Resources

Our statewide Clearinghouse, the state designee for the national RADAR (Regional Alcohol and Drug Abuse Resources) Network for the National Clearinghouse for Alcohol and Drug Information and the Office of Substance Abuse Prevention, provides a variety of printed and visual resources to the community and youth teams, parent educators, and teachers involved in the project. The clearinghouse's toll-free number is available to all project participants for immediate access to the clearinghouse resources and for referral to other prevention resources.

Target Populations

The Community Organizing for Prevention program focuses on community leaders within the general population as well as focusing on high-risk individuals, especially youth.

Although we do work with some teams in urban areas, the majority of our Community Organizing for Prevention efforts are directed towards teams from rural areas and small towns in Nebraska. We make a special effort, when possible, to recruit community and youth teams from towns or school districts that have a school team trained in prevention. Our training content emphasizes working with youth at high risk, including children from alcoholic families. We also educate participants about the relationship of alcohol and drug use to suicidal behavior, unplanned pregnancy, HIV, etc.

We estimate that 35 to 40 percent of the youth involved in the Nebraska Network of Drug Free Youth are at high risk for alcohol or other drug problems. This percentage provides a good mix of these youth at high risk with more pro-social youth who are at a somewhat lower risk for alcohol/other drug-related problems.

Our parent course, "Setting the Limits", provides information on risk factors, and emphasizes how to identify and more effectively parent youth who have these risk factors. Usually 30 to 50 percent of the children whose parents attend "Setting the Limits" sessions have family histories of alcoholism. ADACN's work under a new grant made available by the Office of Substance Abuse Prevention (OSAP) especially targets low-income parents in the northeastern part of the state, where we will be working with parents of Head Start youth. A variation of that parent education program will follow in the next year, when we work with representatives of three Native American Indian tribes, such as the Winnebago, Santee Sioux, and Omaha, to tailor the parent program for their populations.

Evaluation of the Community Organizing for Prevention Project

The project has been evaluated using a combination of process and outcome evaluation methods. In addition, limited data are available concerning the overall impact of the programs on community alcohol use norms and behavior.

Process Evaluation

Process evaluation of the retreat model indicates a high level of activity. In the first year of the project, 1986-87, ADACN conducted four three-day Community Organizing for Prevention retreats for groups representing 21 communities across the state. Since then, there have been seven more retreats, with 51 additional teams trained in Community Organizing, for a total of 72 teams. A total of 550 people have experienced this intensive training.

In July of 1987, two youth retreats were provided to develop teams of alcohol and drug-free youth from communities across the state. Since that time, there have been five more retreats, training a total of 55 youth teams. A total of 851 youths have attended

"Proud To Be Drug Free" youth team retreats.

ADACN has provided a total of 10 Training of Trainers sessions for the "Setting the Limits" parent course since 1987. Eighty-five trainers have completed this training. Prior to 1989, ADACN trained 28 schools in the use of its junior high school "Decisions" curriculum. During 1989, five additional training sessions were provided, training a total of over 100 additional teachers statewide.

Outcome Evaluation

A recent evaluation indicated that, of 72 Community Teams trained since 1987, 64 (or 89 percent) are still active. Of 55 youth teams trained since 1987, 50 (91 percent) are still active. Of 86 "Setting the Limits" trainers trained since 1987, approximately 75 are still teaching or planning to teach the course. Of the 28 schools trained in the "Decisions" curriculum prior to 1989, all are still using the curriculum.

Outcome evaluation of Council programs is also being conducted by University of Nebraska-Lincoln health education professor Ian M. Newman, Ph.D.. Dr. Newman's evaluation of the community retreat part of the project demonstrates that 75 percent of the respondents to post-retreat evaluations continue to be active in community prevention activities.

Dr. Newman's evaluation of the youth retreat portion of the project demonstrates that student education at the retreats makes the students more aware of their own risks for problems with alcohol, and appears to provide them with increased ability to say "no" to offers to drink by their peers. The proportion of youth who remain active in prevention activities is high, ranging from a high of 97 percent for participants in the most recent retreat to a low of 36 percent for those who attended a retreat three or more years ago. More significantly, the number who are still organizing drug-free events is as high for "old groups" (1987) as for newer groups. Newman states, *Drug free youth retreats are attractive activities for young people and their parents. Retreats are regularly oversubscribed. Involvement in school-related drug free organizations and activities remains high. Skills learned at retreats appear to continue to be used so long as individuals remain active in drug free organizations.*

Marie de Martinez, program evaluator, has conducted a preliminary outcome evaluation of the "Setting the Limits" parent education course and has found it successful. *Parents who attend 'Setting the Limits' understand the concepts at least 30 days following the class, practice specific actions tied to concepts, and have at least examined, if not changed, their own behavior in regard to alcohol and other drug consumption. The course has met the expectations of those who have designed the materials.*

Building on this earlier evaluation, the Council has contracted with Dr. Newman for an evaluation of knowledge, attitude, and behavior changes in parents receiving the "Setting the Limits" course from trained trainers. This evaluation has an expected completion date of June 30, 1990.

Dr. Newman's survey of teachers using the "Decisions" curriculum indicates that teachers typically rate the curriculum at "six" on a seven-point scale for both usefulness and ease of teaching. Evaluation showed consistent knowledge gain in every grade following use of the curriculum.

Impact Evaluation

Impact evaluation concerns the ultimate effect of program activities on a community's alcohol use norms or behavior. Impact is more difficult to demonstrate than is success at either process or outcome objectives.

Retreat teams are required to fill out a "community status" form prior to attending a retreat. This form collects general information about the community as well as information on actual or perceived problems with alcohol/other drugs. Evaluation of the possible impact of community and youth teams is accomplished by comparing follow-up reports with this earlier status form completed by the team. Information from follow-up visits indicates that in general, community and youth teams not only stay together and succeed at implementing prevention projects with the current level of follow-up assistance provided, they appear to be growing. With 550 community team members trained, we estimate that over 1,000 community members are currently active in prevention. In addition, Dr. Newman's study indicates that 50 percent of community members perceived that, in their community, both awareness of alcohol and other drug problems, and activities to prevent problems have increased significantly in the last 12 months.

With 851 youth group members trained, there are now over 1200 pledged group members across the state. (While at retreats, and each October thereafter, youth are asked to sign a yearly pledge to remain alcohol and drug-free. These youth have influenced their friends to sign the pledge upon their return home.) A total of approximately 1500 youth are actively involved in prevention through the youth groups, not counting the many more youths who are recipients of youth group activities, such as alternative activities, community service, work with younger students.

The evaluation of parents receiving "Setting the Limits" is expected to show some significant behavior changes as well, particularly in how parents discuss alcohol use with their children and act as positive role models.

All of these activities have an impact on the alcohol use norms of communities by expanding the number of people involved in prevention activities with no additional effort from ADACN staff.

A final indicator of the impact of this project is the success of trained communities in receiving national recognition. For example, David City Aquinas High School received the national "Drug Free Schools Award" in 1989. Aquinas staff and students have been involved in many of the Council's prevention activities over the last several years and were initially trained at a "Proud To Be Drug Free" youth retreat. Upon receiving the award, Aquinas has been invited by communities and schools across the nation to present their successful approach to prevention.

Additionally, the Scottsbluff High Reach youth group was the recipient of the President's National Volunteer Action Award in 1989. The award was a culmination of their efforts in teaching elementary students in the Scottsbluff community about alcohol and other drugs.

The Council itself was a 1989 award recipient of a National Commission Against Drunk Driving Award for its comprehensive approach to prevention in the state.

Replicability

The Community Organizing Retreat Model has been in existence for three years. In that time, we have been able to modify the original model for youth and a county-wide team approach.

All four components of this project - community organizing, youth group training, parent education training, and teacher training-can be easily replicated throughout the country and, in fact, we have already begun to offer the model in other areas.

The basic structures for the programs are in place. Training manuals for the two retreat programs, as well as the parent course material and curriculum lessons, are complete and packaged. Structured agendas for all four trainings have been completed, and could be used anywhere, with modification based on local need. We feel this model is very attractive to others who may be interested (especially in rural areas) in focusing on comprehensive prevention efforts within their service area, or who may be interested in portions of the program.

In 1988, agency staff presented the model at the Alcohol and Drug Problems Association Conference in Charlotte, North Carolina. After hearing the presentation, a representative from Henderson County, North Carolina, contacted our agency and contracted with us to provide a county-wide Community Organizing Retreat for a then-forming 40-member Henderson County Prevention Task Force. Three agency staff and another prevention professional in Nebraska traveled to North Carolina and conducted a four-day retreat in March of 1989. The retreat resulted in a permanent county-wide prevention task force being established and four working sub-committees developed: parent education committee, youth committee, school committee, and resource development committee.

In September of 1989, our staff returned to North Carolina for a three-day Training of Trainers seminar to prepare a 15-member group to deliver "Setting the Limits." The course is currently being offered through the county. Finally, representatives from the Henderson County Prevention Task Force are working with other organizations within their state to implement a statewide community organizing project, based on the model that our agency developed and that they experienced for themselves.

In Nebraska, a variety of other projects have spun off from these programs. Youth groups that have participated in the retreats have later sponsored "mini retreats" for youth from neighboring communities. The youth network model has also been used by other professionals in the state to develop a Multi-Cultural Youth Network now entering its second year in Nebraska.

The parent education course has been modified for Head Start parents, and parents of youthful offenders. A grant is currently pending that would allow the Council to modify the parent course for recovering parents and to offer it to National Council on Alcoholism and Drug Dependence affiliates and other agencies throughout the country.

Conclusions

The Alcoholism and Drug Abuse Council of Nebraska has aggressively sought to educate the citizenry of the state about why prevention of the use of alcohol and other drugs by young people and the low risk use of alcohol by adults is necessary if communities are to put an end to the suffering of social and economic, long and short-term problems created by alcohol and other drugs.

The "Community Organizing for Prevention" program has six elements which are particularly noteworthy.

The program is:

- Low cost;
- Effective in training people to make a difference;
- Comprehensive in its approach to segments of the community.

Resulting in local prevention programs that are:

- Locally owned;
- Volunteer-run; and
- It works!

As the strategies of individual communities continue to be successful, the aggregate effect will be an attitude of less acceptance of impairment caused by alcohol and other drugs. As more people follow this new community standard, fewer people will be drinking to impairment and fewer will be driving impaired. The result will be a reduction of problems created by alcohol and other drugs in the state of Nebraska.

TEENAGERS AGAINST DRINKING AND DRIVING ASSOCIATION

Stacey Schram

Ms. Schram is the Chairman and Co-founder of TADD

TADD (Teenagers Against Drinking and Driving Association) was started in 1984 by teens, who at the age of fourteen lost two friends in a tragic accident in Calgary, Alberta, and wanted to prevent others from experiencing the pain, anger and frustrations that were suddenly thrust upon us. Canada did not have any teen anti-drinking and driving organizations at that time. We took up the challenge to provide teens with an opportunity to get involved and help change the irresponsible attitudes and behaviour people seemed to have towards mixing drinking with driving.

The name was chosen after a great deal of thought and discussion. Students seemed to limit participation, so it became Teenagers. Drinking versus drunk. We chose drinking because impairment starts with the first drink and people have varying ideas of just what "drunk" entails. Driving was chosen over drivers because it was not the people we were against but what they were doing-driving after drinking.

Goals and objectives needed to be established. Our goal was easy - to reduce the number of drinking and driving incidents and prevent needless injuries and deaths. To try and reach this goal we adopted the following objectives:

- To increase teen and adult awareness of the personal dangers and legal consequence of the combined acts of drinking and driving;
- To promote the development of positive, healthy peer attitudes regarding drinking and driving;
- To promote positive peer pressure and responsible teen behaviour through the use of the Friends For Life and/or Contract For Life agreements;
- To promote teen involvement and community awareness and participation in TADD activities and programs; and
- To upgrade public awareness in general about the responsibilities individuals have not only to themselves but others in relation to drinking and driving.

TADD became a registered society and non-profit organization in 1986 and has grown steadily. Without being judgmental or preaching the teens work to improve awareness, knowledge, and commitment to prevent drinking and driving in their communities.

Teens talking to other teens in presentations provide facts on relative information and alternatives to avoid driving after drinking or riding with someone who has been drinking. They are encouraged to preplan how they would handle various situations before they occur and then follow the plan. These choices are necessary whether the teen chooses to drink or not to drink. Friends For Life Contracts and Contracts For Life are available for teens and adults to sign, reinforcing their commitment.

The Live and Let Live Handbook covers topics such as: history and development, membership and chapter information, activities, media and public relations, presentations, alcohol awareness and its effects on the body, alternatives to drinking and driving, laws, statistics, and various resources available. The handbook also has copies of both anti-drinking and driving agreements and membership and chapter applications. Membership cards and lapel pins are available and chapters receive a certificate that can be displayed in their community.

TADD has received overwhelming support from fellow teens, adults, communities, and law enforcers as well as municipal, provincial and federal governments. Awards of recognition from various agencies have been received and appreciated.

Happily, we can report changes in attitudes and behaviour are occurring. Drinking and driving has become an issue that is being tackled from many sides: new laws and increased penalties, Checkstops, successful programs such as TADD, PAID, designated drivers and Friends For Life. Enforcement has been increased and statistics show fewer people are driving after drinking. There is still a great deal of room for improvement, however, and each individual or group can assist in reducing statistics further.

Adults may wish to offer their services as an advisor to teens. Organizations or business representatives may wish to offer their assistance by providing a service, financial or emotional support and encouragement to the teens to help them within their community. Working together, TADD's goal of reducing drinking and driving incidents can be realized.

DRINKING AND DRIVING PROGRAMS FOR NATIVE COMMUNITIES

AMERICAN INDIAN HIGHWAY SAFETY PROGRAM: A COMMUNITY APPROACH

Robert E. Weltzer, Ph.D.

Dr. Weltzer is the Regional Program Manager for the National Highway Traffic Safety Administration of the United States Department of Transportation

Within the United States' Traffic Safety Program, there exists a 51st state, that of the Indian or Native American state. As created by federal legislation (Title 23, United States Code, Chapter 402, Section i), the Indian Highway Safety Program (IHSP) is established as a "state" for the purpose of program roles, responsibilities, and administration.

The Players

The highway safety program at the national level is the responsibility of the United States Department of Transportation. It is directly administered by two agencies within the Department, the National Highway Traffic Safety Administration (NHTSA) and the Federal Highway Administration (FHWA). These agencies share administration of their complementary program areas. The NHTSA portion deals with a series of countermeasures, including police traffic services, emergency medical services, alcohol programs, occupant protection, community organizations, etc. FHWA focuses on highway engineering aspects of the program. Together, these two agencies annually provide funds to states to implement approved traffic safety programs. Through ten regional offices, they provide technical assistance and managerial expertise to recipient agencies.

Each of the 50 states has their own highway safety staff and program in response to the severe problem and potential remedies, including the grant-in-aid funding opportunities. Direct responsibility is assigned to one of the NHTSA/FHWA regional offices on a geographic basis.

For the Indian Highway Safety Program (IHSP), the Secretary of the United States Department of the Interior is the "Governor", with program responsibility delegated through the Agency to the Central Office of the Bureau of Indian Affairs, in Albuquerque, New Mexico. This office is commonly known as the Governor's "Coordinator" for highway safety. As such it has direct authority for approximately $600,000 of highway safety grant-in-aid funds annually. The program encompasses over 400 federally recognized tribes and reservations nation-wide. This coordinator must operate through 12 area offices and 89 agency offices in order to provide services to individual tribes. The IHSP, located in Albuquerque, is assigned to the NHTSA and FHWA regional offices in Fort Worth, Texas.

A fourth player is involved with affecting traffic safety at the tribal level. This player is the United States Department of Health and Human Service's Indian Health Service (IHS). Through its Community Injury Control (CIC) Coordinators, the IHS impacts basic health issues at the tribal/reservation level. Of particular importance is the reduction of injury on the reservation. Within this mission, local CIC Coordinators have initiated activities to impact traffic crashes within their areas of responsibility.

Motor Vehicle Crash Losses

The American Indian population is scattered throughout the United States on reservations, on "Indian identified lands", and in other rural and urban areas. There is no single set of traffic crash data for this population. Within this setting, succinct statements by the National Committee for Injury Prevention and Control provide the necessary perspective regarding the Indian/traffic crash problem. In their 1989 publication, INJURY PREVENTION: MEETING THE CHALLENGE, the Committee reported:

> *Traffic injuries also vary by race and income. The highest traffic injury death rates are found among Native Americans (51 deaths per 100,000, compared to 24 for whites, 19 for blacks, and 9 for Asians)....Native Americans have higher death rates as motor vehicle occupants and as pedestrians.*
>
> *A portion of the Native American traffic injury death rate is attributable to a high incidence of alcohol use, but there are other important factors....Native Americans may be disproportionately likely to walk on roads without pedestrian areas or to ride in open pickup trucks.*
>
> *Nationally the per capita income varies inversely with traffic injury death rates....Poor roads, older and poorly maintained vehicles, different driving practices (e.g., less frequent use of safety belts), and lack of efficient emergency and medical care and transport services play a significant role in this difference. Some of these conditions may also help to explain why traffic injury death rates are more than twice as high in rural areas of the United States as in major urban centers.*

IHS figures indicate that each year approximately 500 American Indians and Alaskan Natives die from injuries sustained in motor vehicle crashes. The average age of these victims is 27 years old. Men are more commonly the victims than women by two times. The estimated costs for transportation and acute medical care incurred by IHS for motor vehicle related crashes is in excess of $10 million annually, with an estimated societal cost for the deaths of $500 million.

Public Health Program Model

The model through which this costly injury epidemic must be addressed is built on a public health approach to injury prevention. The traditional model includes a concerted effort to impact traffic crash causation through three separate phases. The first phase, that of providing acute medical treatment for the injured, falls outside of the limited, localized scope of a possible tribal traffic safety program. That is not to say that responsive emergency medical services should be ignored in reviewing traffic safety needs locally; instead, it becomes one of many interventions to be considered upon identification of needs and available resources.

Epidemiological analysis of contributing factors to injury causation is the second phase. This should be the foundation of local traffic safety programs, providing needs assessment and direction for program activities. It is based on traffic crash records, review of related operations in comparison to common standards or practices of performance, and professional experience.

The final phase, that of development, implementation, and evaluation of specifically targeted intervention programs provides the opportunity for payoff from the prior activities. Each of the steps in this phase is critical and must be completed in relative sequence to form the basis for the next iteration of community action.

Program Issues

One overriding issue which impacts the Indian Highway Safety Program is the often harsh competition between states and Indian tribes for control of scarce economic resources. Historically, this has been confined to battles over natural resources, such as mineral, timber, and fishing rights. Today, we find struggles over new items including vehicle registration, cigarette and alcohol sales, and bingo. These struggles have erupted into bloodshed through armed confrontation.

The situation is further confounded by conflict over legal jurisdiction. A major challenge in Indian Land are the conflicts between Indian law and non-Indian law. Indian law is rooted in individual tribal treaties, some of which are said to predate the United States Constitution. These operate in a framework prescribed by federal law, which separates criminal and civil authority on reservation lands by type of police department and by heritage of the accused. Jurisdiction over a particular incident may be in the hands of tribal police, BIA police, FBI, or state police/county sheriff, depending on location, type of offence, and individuals involved. This often operates within a setting in which the relationships between neighboring enforcement agencies are less than favorable.

Traffic Safety Countermeasures

Occupant Protection Programs

- Child Passenger Protection - since 1980, the Indian Highway Safety Program has helped to establish almost 100 child safety seat loaner programs nationwide. Programs are often supplemented by tribes, Indian Health Service, state highway safety offices and private foundations. No figures are available on correct use rates.

- Adult Passenger Protection - tribal response has varied on this issue. Selected tribes nationally (including Navajo, Lummi, Fort Peck, Jicarilla Apache, and Nambe Pueblo), have passed tribal ordinances requiring use of safety belts by all drivers while on the reservation. Little is known about resultant use rates.

  A success story....the Southern Ute Indian community (population 2,000), located in southwest Colorado has been targeted by the Southern Ute Community Action Program (SUCAP) and the Colorado Highway Safety Office in a comprehensive effort to increase seat belt awareness among the local population (1/3 Southern Ute, 1/3 Hispanic, 1/3 Anglo). A major accomplishment of this project was the tremendous effort put forth by the total community, both on and off the Indian reservation. Base line usage surveys of passenger cars front seat occupants under Colorado state law showed a use rate of 21.6 percent (November 1988). A recent follow-up survey (May 1989) after initiation of programs activities reports a use rate of 41.3 percent.

DWI/Alcohol and Drug Impaired Driving

Enforcement remains the basic tool of the Indian Highway Safety Program in dealing with the DWI problem. Jurisdictional issues aside, there is a dearth of resources available to address an immense problem. BIA's Indian Highway Safety Program goal is to raise the level of capability available at the tribal level through provision of basic resources (manpower and equipment), by arranging for professional training where necessary and available, and establishment of interface with local non-reservation law enforcement agencies to enhance area-wide DWI and traffic enforcement impact through cross-deputization, shared access to training facilities, and participation in statewide breath testing programs.

A success story....with assistance from the IHSP, the Lummi Tribe in northwest Washington State has recently achieved a high level of cooperation and mutual aid with surrounding non-reservation law enforcement agencies. Another....the Nebraska Highway Safety Programs Office has brought the Winnebago Indian Tribe into the state's breath testing program by providing a breathalyzer and operator training/certification. Additionally, the State has made available its purchase agreement to provide radars to Omaha and other Indian tribes in the state. The State will also provide training to radar operators with tribal police departments.

Traffic Crash Reporting

Numerous local studies of traffic crashes have reached the same conclusion: a problem exists as documented by the magnitude and severity of traffic crash reports at the tribal police department. On the other hand, when visiting the state highway department, tribal officials are told that the tribe has no problem, again based on magnitude and severity of the crash reports, but this time those collected at the highway department office. Very quickly it should become evident that the pile of reports at the tribal offices is substantially larger than that at the highway department. A logical conclusion is that accidents are investigated, but the communication system fails due to lack of reporting by the tribal officials to the state. For whatever reason it exists, this reporting gap penalizes a tribe by giving them less than full consideration of their traffic crash problems when the statewide system is analyzed and resources are allocated.

As a specific example, White Mountain Apache tribal officials, IHS health professionals, and engineers from the Arizona Department of Transportation (ADOT) met to review a possible crash problem on State Road 73. Federal Highway Administration funds were available to conduct a hazard elimination project if the problem could be substantiated. ADOT records indicated 29 crashes in a three year period, whereas a detailed study by IHS of two of those three years identified 174 crashes!

Highway Engineering

Highway engineering is probably the most recognized countermeasure when someone mentions highway safety. As such it is the most obvious when some improvements are made. Locally, IHS and tribal officials have been able to achieve startling results, particularly when coupled with improvements in crash reporting to the state records system. Techniques as basic as crash tracking on a pin map have aided tribes in the California, Nashville, and Phoenix areas of IHS to identify clustering of crashes by selected characteristics such as time of day, crash severity, alcohol involvement, etc. With this perspective, patterns become evident and suggest improvements. Assistance from local highway engineers or state department representatives can result in gaining correction of identified engineering problems with outside resources. Success stories include improvement in crash histories through improvement in pedestrian walkways and elimination of roadside hazards.

Community Traffic Safety Programs

Under the auspices of the IHS, CIC Coordinators, many local task forces have been formed on Indian reservations to begin documenting and analyzing problems associated with traffic crashes. In its program, *None For The Road*, IHS established a five step approach similar to that used by the Department of Transportation and the State Highway Safety Programs:

- *Systematic Approach:* community-based initiatives involving all pertinent agencies when seeking solutions to local crash problems.

- *Epidemiological Investigations:* thorough investigation of motor vehicle injuries, identifying specific factors preceding such injuries, and developing appropriate interventions strategies to prevent these injuries in the future.

- *Regulations:* develop and implement local and tribal regulations controlling liquor sales, and enter working agreements with local entities to regulate off-reservation taverns and liquor stores.

- *Enforcement for Deterrence:* adopt and enforce strict tribal drunk driving laws. Work for adoption of strict state laws. Strictly enforce enacted drunk driving laws with rapid, judicial processing and sanctioning for offenders that are equitable, consistently applied, and effective. This may include entering working agreements with off-reservation entities. Enforcement activities should be self-supporting, and widely publicized.

- *Community Action Groups:* establish tribal coordinating committees to take the lead in promoting development of special community outreach activities.

Multidisciplinary participation within community action groups can provide access to resources. It can also involve citizens who have a stake in the solution. In this manner, local task forces can begin to have a small but meaningful impact on tribal traffic losses. In other words, regardless of the reason for starting a local effort, the participation by key leaders and resource individuals can make a community effort viable. It may not be easy, and it may take a long time. Many have seen the film "For the Honor of All", which details a struggle by members of a tribe located approximately 600 miles west of Edmonton. The tribal members at Alkali Lake overcame an alcohol problem, not due to a large grant from the government, nor by influence from an outside social or religious groups, but rather through dedication of one individual who recognized the problem and who had the courage and dedication to do something about it. That's what it takes to light the fire: one or a small group of individuals who want to effect change. Once an "organization" is started, an established process should be followed to aid in maintaining momentum and gaining credibility.

Community efforts can be focused on one or a number of activities developed to address local problems. A multitude of countermeasures exist. For example, DWI program areas and countermeasures recognized with *None For The Road* includes:

- *Youth Strategies:* curfews, youth per se laws, Project Graduation, provisional licences, minimum purchase age.

- *Sanctions:* licence suspension, community service, in-house arrest, jail.

- *Prevention:* safe rides, designated drivers, responsible social hosting, server education and training.

- *Public Information:* materials, public service announcements.
- *Citizen Support:* victim assistance, court monitoring.
- *Other:* medical referrals of individuals convicted of DWI to screening to channel them into the most effective rehabilitation program, enhanced/improved emergency medical services network, promotion of occupant protection, roadway/roadside hazard identification and abatement.

Examination of the agenda from this very conference also provides a comprehensive list of activities which may be appropriate to address DWI at the tribal level. Other activities may effect desired changes through concerted efforts at the state level.

A success story....the Oklahoma Highway Safety Office has taken the initiative to incorporate tribal populations into their program assessment and countermeasure implementation. Youth initiatives include conduct of a "Native American Challenge" in which Indian youth who are leaders at local high schools participate in a training program to develop leadership skills. With help from a counselor and the Highway Safety Office the student leaders are expected to return to their schools and initiate youth/DWI interventions with the student body. This activity is patterned after sessions conducted for the general population, but include a special cultural emphasis which makes it more meaningful for participants and provides a heritage-based message for school use. To support these efforts with the second largest Indian population in the U.S., the Highway Safety Office has added a Native American community program coordinator who will assist these youth leaders and tribal officials in developing local traffic safety programs.

Conclusion

Perhaps one of the best ways to demonstrate the impact which can be anticipated for traffic safety at the tribal level is to highlight the final recommendations of the Motor Vehicle Task Force to Reduce Motor Vehicle Fatalities on the Navajo Nation. This multidisciplinary task force has assembled the following set of locally produced recommendations to impact traffic safety on the largest reservation in the United States. Joint efforts between officials of the Tribe, the United States government, the States of Arizona, New Mexico, and Utah, and local governments, displays an immense scope of investigation and vision. As implemented, the program should pay dividends for years to come.

The Navajo Nation Task Force Recommendations include:

- Street lights be installed on U.S. Highway 666 on mile post 1.0 to 5.0, north and south bound route, north of Gallup, New Mexico;
- Seek funding to expand ratio of police officers to population served from one in 1000 to four in 1000;
- Increase enforcement of existing laws, pertaining to seat belt and infant restraint, DWI, and driving without a licence;
- The Navajo Tribe adopt a policy regarding protective custody. Encourage the McKinley County and Gallup Police to enforce protective custody laws. Recognize efforts of the City of Gallup's current protective custody program;
- Clustered locations of motor vehicle crashes need to be identified and follow by appropriate field investigations. These field investigations can be used to develop recommendations for intervention. These interventions would then be forwarded to the appropriate agencies;
- The Navajo Nation needs to be represented on the Council of Governments for Arizona (Flagstaff) and for New Mexico (Gallup);
- Advocate to state representatives for Arizona to adopt motor vehicle occupant restraint laws similar to the Navajo Nation;
- Conduct a comprehensive study on the potential impact of open sales and distribution of alcohol on the Navajo Nation. The study should consider as many social and public health issues as possible including the impact of motor vehicle crashes, exposure deaths, abusive or violent behavior, rehabilitation and associated costs. The intent of the study is to objectively present the merits and problems associated with the legalization of the sale of alcohol on the Navajo Nation;

- Explore the possibility of obtaining funding for a transit system between Gallup and Window Rock. The New Mexico Department of Traffic Highway and Transportation can be used as a resource in seeking funding for the transit system. The transit system would operate at late night hours. One purpose for the transit system would be to remove pedestrians and others from the night hazard areas;
- Navajo Tribe to educate people through Council delegate representative regarding seat belt and child restraint use;
- Encourage schools within the Navajo nation to include injury control/prevention science within the curriculum;
- Navajo Nation to deal with roaming livestock posing a hazard to motorist on highways.

Upon close reading one will note that these recommendations cover a broad range of traffic safety related activities. They include locally influenced program countermeasures such as protective custody, traffic engineering, and occupant protection programs; management improvements such as accident investigation for improved crash reporting; and opportunity for enhanced interface with surrounding jurisdictions facing similar or related problems through representation on the appropriate Councils of Government.

Key ingredients are local initiative, implementation, and finally, responsibility. The key number may be as small as one person, who will not accept the status quo. Through initiation of local traffic safety task forces, tribes in the United States can and

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NORTHERNS AGAINST IMPAIRED DRIVING (N.A.I.D.)

M. David Gates

Mr. Gates is the Regional Director for the Department of Justice

Any discussion about anything having to do with the Northwest Territories requires some appreciation for the geography and demographics of this vast area of Canada.

Geography

The Northwest Territories is 3,376,698 km^2 (or 1,304,903 sq. miles), approximately one-third of the landmass of Canada and roughly equivalent to the size of India - spanning four time zones. In terms of population, the Northwest Territories has 55,000 inhabitants of which approximately 60 percent are of native ancestry. The N.W.T. is the only jurisdiction in Canada in which the native population constitutes a majority. Of these 55,000 people, approximately one-third live in Yellowknife, the capital city, while the remainder live in the 62 other towns, villages, hamlets and settlements that are scattered across the Territories.

Alcohol Abuse

The vast majority of N.W.T. communities are only accessible by air. Accordingly, the "network" of highways and roads in this jurisdiction is extremely limited. With the exception of the major centres, the most common motor vehicle in the N.W.T. is the snowmobile and the all-terrain vehicle.

Alcohol is not the only "source" of impairment. There is a major substance abuse problem in the North, particularly amongst the young people - not only narcotic substances, but also such things as propane, glue, "Pam" spray Lysol, Listerine and other mouthwashes, and aftershave. By way of illustration, I would simply point out that a "typical" Northern break-and-enter offence involves a group of young boys roaming the streets late at night and breaking into private dwellings, warehouses, business premises looking for substances on which they can get "high". It follows, I suggest, that the "drinking and driving" problem ought properly to be described as an "impaired driving" problem, and that it has some different characteristics in this northern setting which do not exist to the same extent in the more southern parts of the continent.

It is also important to remember that the problem of impaired driving in the native communities of the North is but one aspect of the devastating effects of chronic alcohol and substance abuse. Over 90 percent of crime in the N.W.T. is alcohol or substance abuse related. The devastating effects are not restricted to actual "crime", but touch virtually every aspect of life.

One of the most interesting or novel features of the Liquor Act permits each community to decide by plebiscite the type of liquor system which they wish to have in force in their particular community. The options are as follows:

- *Unrestricted* - community subject to only the laws of general application in the N.W.T.;
- *Restricted hours* - laws of general application apply, but the hours of licensed premises are restricted;
- *Restricted Quantity System* - laws of general application apply, the quantity of liquor that a person may purchase or bring into the community is limited by a local alcohol education committee; and
- *Prohibition System* - the consumption, possession, purchase, sale or transport of liquor within the settlement, municipality or area is absolutely prohibited.

The prohibition regime is certainly not without its difficulties. The R.C.M.P. spend a great deal of time dealing with those who attempt to bring liquor into so called "dry" communities, and the incidence of "home brew" is relatively high. Nonetheless, the system does represent an attempt on the part of communities themselves to deal with the alcohol problem.

Northerners Against Impaired Driving (N.A.I.D.)

As many Canadians will be aware, in the mid-80's, the Government of Canada unveiled its long term strategy to combat impaired driving. Part of the program involved the funding of community based programs and projects aimed at the impaired driving problem. The group Northerners Against Impaired Driving was formed in the wake of this national initiative.

The impaired driving program which exists in the N.W.T. can, I think, best be characterized as one of short-term successes. I regret that there has been some very real difficulty in sustaining long-term, active, community based involvement.

The reasons for this problem are many:

- Sparse population in isolated communities spread across a vast land mass;
- Mobility of people in the North;
- Age old problem of having a few concerned citizens in each community taking on a vast array of "causes", including this one and ending up simply spread too thin;
- Availability of funding for other programs - believe it or not, there is a greater amount of money available in the North for a wide variety of projects. The fact that we had money available for impaired driving initiatives in reality meant that we had to "take a number" so to speak, or "wait in line" until the community reached our pot. Closely related to this, in some respects, the North is "programmed to death". There are so many programs which exist in this rather unique part of the country that getting our message out was a difficult task.

Having first identified the problems, I'd like to note some of the successes we have experienced.

Impaired Driving Conference

In October, 1987, N.A.I.D., with funding from the Long Term Drug Strategy Program, hosted an Impaired Driving Conference in Yellowknife, which was attended by representatives from most of the communities. The primary focus of the conference was simply to heighten public awareness about the problem and to get people talking about possible solutions. It was hoped that conference participants would go back to their respective communities and "spread the work".

Community Network Group

In the spring of 1988, and again in early 1989, community representatives were brought to Yellowknife in an attempt to reactivate the interest and enthusiasm generated by the Impaired Driving Conference. The underlying rationale was that the nurturing of these community representatives would facilitate the dissemination of information to the community they were from, and help in the promotion of N.A.I.D.'s impaired driving message.

Advertising Campaign

N.A.I.D. funded the design, printing and distribution of "northern oriented" posters advertising the impaired driving message. The poster was widely distributed throughout the N.W.T. and appeared in Territorial newspapers and publications around the Christmas season.

Friends Don't Let Friends

The Department of Justice in Ottawa produced and funded two video productions dealing with impaired driving. I suspect that most of the Canadian delegates are familiar with one of these videos, *Getting Serious*, which focused on impaired driving and teenagers.

The other video was filmed entirely in the Northwest Territories and focused on a number of the native communities. Entitled *Friends Don't Let Friends*, the video premiered in Yellowknife on April 27, 1989, at a Gala event hosted by Northerners Against Impaired Driving, and attended by Carolyn Waldo. The video has subsequently been translated into eight aboriginal languages and distributed across the North.

Conclusion

In conclusion, I would simply state that the process of raising and maintaining on-going community involvement in the native communities of the Northwest Territories is no easy task. The geographic, linguistic and cultural features of this region all are somewhat inhibiting to the process.

STRATEGIES FOR MOBILIZING THE BEVERAGE ALCOHOL INDUSTRY IN THE ATTACK ON DRINKING AND DRIVING

JOHN LABATT LIMITED (CANADA)

Dr. Ed. E. Stewart

Dr. Stewart is the Vice President of Corporate Affairs for John Labatt Limited (Canada)

Every successful company seeks to establish a good corporate reputation in order to be perceived as a good corporate citizen.

This is particularly true of those in the alcoholic beverage business since, over the years, society, certainly North American society, has been apprehensive about the use of alcohol by the general citizenry. That is why the business is so highly regulated; why in every province we have agencies that bear names such as Liquor Control Board. That is why the government imposes such heavy taxes on alcoholic beverages.

All of these measures are taken, of course, because we know from experience that the excessive use of alcohol can cause problems — for the individual and for society. Drinking and driving and the ramifications of same, are very much a case in point.

Realizing this, most companies in the alcoholic beverage business, certainly Labatt's , want to contribute to dealing with the problem; they want to be perceived as being part of the solution not simply part of the cause. Our basic objective is to have people use our products responsibly. Our approach reflects, quite candidly, not only our own sense of responsibility but also a good deal of self interest. It does not help our company when people do not use our products in a responsible way.

The truth of the matter is that most people do handle beer, wine and spirits responsibly. Unfortunately, a small number do not. They abuse alcohol and they let alcohol abuse them. Why they do so is not subject to any simple set of explanations or analysis. Indeed the reasons are often extremely complex and very personal. Nevertheless, to the extent that people can be persuaded, educated, and/or conditioned to act more responsibly, then we want to play our part — we want to play a major part.

Now it's not important whether, as a company, we act on the issue collectively, through the industry or individually. Neither is it important whether we do it by ourselves or through others. Our basic desire is to push the cause of responsible use; the notion that drinking and driving do not mix.

Obviously, no single approach can prove effective. Our major effort is through a comprehensive advertising/communications program directed to the broad general public. But our efforts are not confined to that. For example:

- In October, 1989, Labatt's provided the financial support necessary for a national conference entitled " Preventing Alcohol Problems: The Challenge for Medical Education" which was organized by the Department of Preventative Medicine & Biostatistics and the Department of Behavioural Science at the University of Toronto in association with the Addiction Research Foundation of Ontario and the Canadian Medical Society on Alcohol and Other Drugs;

- For the last five years, or more, La Brasserie Labatt has conducted a series of workshops in the province of Quebec dealing with alcohol and the workplace;

- Through our participation in the Brewers Association of Canada we have provided funds in support of appropriate research through the Alcoholic Beverage Medical Research Foundation, which, for many years, has been associated with John Hopkins University;

- Through the funding of various Canadian groups and organizations that are working in areas related to alcohol and alcohol abuse. In this regard, in April of 1990, Labatt's will be distributing a half a million dollars to organizations of this kind;

- Again, through our participation in the Brewers of Canada, we have contributed to a public campaign based on the theme of "drink responsibly" which has taken the form of TV ads, billboard displays and radio messages;

- Over the last two years, Labatt's has organized and offered a program of advanced driver education, that not only emphasized the "Don't Drink and Drive" message but brings to those who participate, direct experience in regard to appropriate driving skills. This program, which is called the "Labatt Road Scholarship", and which is offered in co-sponsorship with Ford Motor Company of Canada, has been presented on some 26 University campuses from coast to coast in Canada during the fall, winter and spring of 1989-90. This program consists of both a lecture presentation, with extensive use of audio visual materials, and hands-on driving experience at an appropriate site on or near the campus.

But the major contribution by Labatt's, over the years has been an advertising/communications program that has been focussed on the "Don't Drink and Drive" message.

All of this, of course, is far short of the perfect program but we continue to strive to make it better and more extensive. In this regard we continue to ask ourselves such questions as:

- Have we done enough?

- Are we doing the right things?

- Are we working effectively and co-operatively with those who show a common interest in this cause?

And it is our hope that, through asking ourselves those questions, and continuing to seek to act in a responsible way, we shall make a significant contribution in the attack on drinking and driving.

CAMPUS APPROACHES TO PREVENTING DRUNK DRIVING

BACCHUS (USA)

David Leschke

Mr. Leschke is the Director of Chapter Services for BACCHUS, USA

Introduction

Although the issue of impaired driving is one that faces all cross-sections of today's population, probably no higher risk group exists (not counting the "problem" or addictive drinker) than the traditional 18-24 year-old college student. Certainly, no group that exists in one definable location, as compared to a population spread out across age groups and behaviour patterns.

The habits and behaviours of college students do not fit that of (for lack of a better word) "average" adults. Abuse is more prevalent, binge drinking is common, most students report having one or more negative consequence results from their drinking. Even compared to those people in the same age, there are drastic differences between those who are in college and those who are not. The National Institute on Drug Abuse 1988 Survey found 91 percent of college students reporting themselves as drinkers, while only 65 percent of those 18 to 24 year-olds who were not in college were drinking.

Yes, the risks are great indeed. The leading cause of death for 16 to 24 year-olds is automobile accidents. Nearly half of these accidents are alcohol-related. In the last 20 years, life expectancy has increased in every age group except one; again, 16 to 24 year-olds. In most states, 16 to 24 year-olds make up less than 20 percent of the drivers on the roads, yet also accounted for approximately 35 percent of the alcohol-related fatalities in 1989. In an attempt to counteract much of the devastation represented by these statistics, the drinking age was raised to 21 years on a national level. Most experts agree that the result of the drinking age increase has not impacted if students drink, but where they drink. And, because college and university policies have become more strict, much of the drinking-related activities have transferred off of the campus and into the community.

On top of all this comes what is probably the most frightening statistic of all from the 1988 Egns and Hansen Study which reports that one half of all college students admit to having driven a car after drinking in the last year. College and university students, a high risk population, are drinking and then driving, and doing so in the midst of the city, town, or community in which the campus is located. This puts everyone at risk.

No One Method Stands Alone

A piece-meal attack on the drinking and driving issue results in a sporadic effect with no coordination of the many elements necessary to reduce negative behaviours. A designated driver program may prove effective in the spontaneous removal of the impaired driver, but certainly is not a panacea for the bigger issue of preventing the potential driver from becoming intoxicated. Strong enforcement of stricter penalties has proven to be a somewhat effective deterrent, but is not useful against those drivers (especially young people) who do not feel susceptible to risk.

Education is the answer and the hope that we all fall back on. Though no clear evidence exists that there is a direct relationship between the amount of education and the number of impaired drivers on the road, there is certainly a strong case to be made that without the large amount of programs, activities, anti-drinking and driving messages, and community action groups such as MADD, BACCHUS and local law enforcement programs, the situation would be much worse.

On the college and university campus, however, the educational standpoint relies heavily on a focused delivery. One cannot rely on a few posters in the residence halls and the hope that students are watching many of the anti-drinking and driving public service announcements displayed on late night television. Education must focus on attitudes as well as information, must expose students to a wide array of behavioural skills that allow students to make positive choices in place of impaired driving, and must work with other campus departments to provide the type of environment in which these positive attitudes and positive decisions can be made and acted upon.

This type of three pronged strategy has been used by a number of successful programs throughout the United Sates, but it wasn't until Gerardo Gonzalez, professor and researcher at the University of Florida, developed what he calls the Integrated Theoretical Model for Alcohol and Drug Prevention (ITMADP) that educators could use a system that was focused and validated by a research study and targeted test group. (Gonzalez, 1989)

Attitudes and Information

There is an ironic moment that takes place at many alcohol education conferences, especially those directed at young people. A session will end and during the break many of the educators will go outside to smoke a cigarette. More often than not, one person present will make a comment (before or after a puff) such as, "if these kids knew what those drugs were doing to their body, they would stop using them!"

Obviously, information isn't always the critical item, as most smokers know they are physically hurting their bodies, yet continue to do so despite the information. Many times it is the attitude about the behaviour, rather than the information on it, that take precedence in the decision making process (Jones and Bell-Boke, 1986). That is not to suggest in any way that we should neglect the informative aspect, just that it must be coupled with positive peer pressure, and a sense of what is and is not acceptable. And, of course, staying with the smoking analogy, the cumulative impact of measures to reduce smoking - almost inconceivable only 25 years ago, suggests the possibilities. (Farrell, 1989)

In almost every behaviour theory model, one of the primary indicators of abuse, of whether or not a person will take risks involving the use of alcohol or other drugs, is dependent upon whether or not the person is aware of the risks and feels susceptible to them. If there is no potential for damage, danger, loss, etc., there is no reason not to continue the behaviour.

Therefore, despite the fact that many young people consider themselves "immortal", despite the fact that "it won't happen to me" becomes a counted on premise, we must pass on the following information:

- The issue is impaired driving, not necessarily drunk driving. Even well before legal intoxication, an impaired driver is at greater risk of having an accident than someone who has not been drinking at all;
- For young people under the minimum drinking age, as soon as they drink they are being irresponsible and are breaking the law, whether they get behind the wheel or not. To then drive impaired is breaking the law again;
- The average cost, in just financial terms, of a DUI is roughly between four and five thousand dollars, depending on the state;
- To make the decision whether or not one is capable of driving at the end of the evening is not always wise because if that person has been drinking, their decision-making and judgement skills may be affected by the alcohol;
- And, of course, that people are hurt, maimed, killed in drinking and driving accidents, even those who are only eighteen, or twenty or twenty-two, etc.

For all these informational aspects (and many others) there is an attitudinal message as well. To work on the aspect of impaired driving, we try to instill the attitude of "Don't Drink and Drive" as opposed to "Don't Drive Drunk". Zero alcohol use for a person operating the vehicle is the goal.

Although, given the numbers of students under the minimum drinking age that were still using alcohol, there has not been great (or even slight) acceptance of the drinking age by the young people, we still can work toward an attitude about that subject. We must never condone underage drinking, or make it easy for underage people to get alcohol. We must make sure those people who choose not to drink do not feel like they are the "strange ones" even though they are in a minority. We must provide the non users with a great deal of support, and attempt to draw others into that category. And we must try to educate those people who have chosen to drink, despite the law and despite the risks, try to teach them that a decision to drink does not equal a decision to become intoxicated or to drink to excess, try to educate about their susceptibility, including those involved with potential drinking and driving issues.

Not only must we inform students about the danger to themselves, but also the danger to others as well. Often students are much more apt to respond to the possibility of losing one of their friends, or perhaps being responsible for the death of someone else than they are concerned about their own safety.

Teaching Skills: Direct and Indirect Learning

Of course, if we want students to know that they are at risk, we must convey that certain behaviours are dangerous. If we want them to choose other options that are less risky, we must give them the proper skills in order for them to do so (Gonzalez, 1989).

Many of these skills seem to have nothing to do directly with the alcohol issue. Included just as a few examples in the list are stress management, leadership, decision-making, group dynamics and team building. If we remember that our goal is that students make a decision not to drink, or at least not to drink in a high-risk fashion, we need to teach them how to make those decisions, how to be assertive enough to convey their decision, how to communicate that decision to others, and how to feel good about themselves for making that decision. This is alcohol education.

Seatbelt use is a fine deterrent against critical injury should someone be involved with a drinking and driving accident. By teaching students to use seatbelts, we are also doing impaired driving prevention, simply because if a student goes through the decision making process in a way that will lead to the conclusion, "I am safer with my seatbelt on", that same process will lead to "I, and the people around me, are at risk if I drive impaired, therefore I will not."

Again, assertiveness is a key issue because much of the problem among students who share cars and rides on a frequent basis comes from students who ride with an impaired driver. Getting someone to pledge not to ride with impaired drivers can sometimes be even more difficult than getting them not to drink and drive themselves. And the list goes on. Teaching people to make plans at the beginning of the evening, when everyone is sober, as opposed to trying to figure out how to get home at the end of the evening when options might be limited is certainly advised.

Without these skills, only some of which are mentioned above, all the information in the world becomes useless because students are unable to do anything with the knowledge. And vice versa, if a student knows how to make choices, but is not guided into what are appropriate choices, or does not feel a need to make healthy choices because of a lack of susceptibility, those skills are wasted.

Environment

Probably the most important of all the variables involved with impaired driving prevention is also the least tangible. Students must be living in an environment where the drinking and driving issue is constantly raised, where they are being confronted about negative behaviours, both by peers and by authority figures, and where other options that are positive and viable exist in order to make students choose these over drinking and driving, and, hopefully over drinking itself, at least drinking in an excessive way.

One of the reasons why so much attention is being paid to the drinking and driving issues is simply because so much attention is being focused on the drinking and driving issue! It is a positive cycle. More and more organizations feel a responsibility to educate, to warn about the dangers of impaired driving. We all want to be involved in the prevention process because we feel there are lives being lost without reason.

Television sponsors public service announcements, athletes and film stars serve as role models, the beverage alcohol industry has mobilized to some extent, bars and taverns, police and judges, communities and campuses, feel it is part of their duty to do what they can to draw attention to the issue. And this is a good thing.

We must do everything possible on our college and university campuses to keep the issue of impaired driving in the limelight. Posters should be up everywhere, faculty and resident hall staff should try to plan educational programs, or at least mention the topic frequently, fraternities and sororities should be dealing with the issue at their meetings and at their parties, the topic should be at the forefront of most minds and on the tip of most tongues. Not only does this kind of environment produce education, it produces prevention as well: friends, peers, tavern owners, etc. are stopping others who may not have made a right choice from drinking and driving.

Included in the arena of environment would have to be the alcohol-related laws and the enforcement of them. There is not much that a campus can do to arrest and convict their students who are guilty of impaired and drunk driving. This is primarily a job for community police. However, there are some instances when on-campus security does encounter an impaired driver. Action must be taken.

Colleges and universities cannot be sanctuaries against the law. Campus property is not holy ground. If there is no way to bring the police onto campus for the arrest of an impaired driver, the campus must have a discipline structure that is firm, swift and severe in its own right. If a student has been arrested and is mandated by the courts to receive education or provide community service, the campus cannot make it easier for the student to serve his or her sentence. Again, too often our colleges and universities play the role of enabler, something none of us want to do.

Certainly an acceptable environment must provide other recreational choices in order for the student to choose something besides the option of drinking and perhaps then driving. Events must be planned. Students must know of these events, the prime drinking hours must be attacked. Too often we fail to plan events on Thursday, Friday and Saturday nights because we feel "everyone just goes out anyway". We cannot sabotage our efforts with this type of defeatist attitude.

Part of the idea of giving options is also the case of designated driver programs. If students decide to go out from the campus, as more and more are, any encouragement for all, but at least one, not to become impaired is necessary. The designated driver program allows for that to happen by encouraging at least one member of the group to refrain from drinking at all. As a way to encourage and make this a positive choice for the individual, free soft drinks and food are given to the person choosing not to drink alcohol.

There are some who might make a case that the availability of the designated driver program gives people the idea "since you are the designated driver, I can get as intoxicated as I want. I don't have to be responsible because you are going to drive me home." Of course, the rationale behind this argument is weak at best. When people go out to a licensed establishment, a bar, a tavern, usually only one person drives for a group of three or four. The other people who rode with the original driver have no more reason to drink to excess whether their driver is drinking or not.

The type of establishment that uses a designated driver program, is willing to encourage the use of such a program, and is willing to spend money on free soft drinks and food, is not likely to allow people to blatantly drink to excess. Immediately people who walk into the bar are given the attitude that impaired driving prevention is important to this licensed premise, simply because they see signs and posters, and the waiter or waitress asks immediately "who is your designated driver?" (as if it is a given that they would have one).

In a perfect world, people would not drink to excess. In a perfect world, everyone would know better than to put themselves at risk. In a perfect world, no one would consider the idea of drinking and driving. This is, however, not a perfect world. One half of those people who are impaired drivers drink at licensed premises, especially bars, before driving (O'Donnell, 1985). These people had gone to the bars with the intention of drinking. They had already made a decision, and to ask them not to drink at this stage would be too little, too late. The option of a designated driver program might keep this person from driving a car, and as importantly, might keep others from the risk of riding home with an impaired driver.

Again, no one is saying that designated driver programs are a panacea for the issue of impaired driving. Hopefully, a day will come when the need for such programs is no longer present. Until then, however, we must try to get people home safely in order to try to educate them more in hopes that they don't end up in the situation again. And by keeping the intoxicated person and potential impaired driver off the road, we are reducing the risks for the innocent others who may happen to be driving or walking that night.

The prominence of materials openly discussing the alcohol issue, peer education and peer confrontation about drinking and driving, a campus-wide and community-wide concern about the risks involved, not enabling students by "hiding" them from the law and from penalties for impaired driving, alternative activities that are fun, safe and healthy that allow people to choose these events over those that serve alcohol (or serve too much alcohol), designated driver programs or other safe-ride programs that get intoxicated potential drivers home before they can hurt themselves or others are necessary. All of these items equal an environment which is conducive to behaviour change.

Conclusion

The IMADP model put forward by Gonzalez describes what needs to be done in terms of education toward prevention of impaired driving. The information and proper attitudes must be offered to our students, both making them aware that they are at risk and also that there are ways to avoid those risks. We must teach skills that will allow students to take advantage of this information in order to avoid bad choices and make good ones. And we must provide an environment in which those positive choices are encouraged, but more importantly, are available, an environment that will reward the good choices and punish the bad ones.

Will it work? There are many definitions for success. In 1987, 23,630 persons were killed in alcohol related vehicle crashes in the United States. This in itself is an appalling number. However, this number is 1,540 fewer than those that died in alcohol-related crashes in 1982, even given the fact that this took place during a period where the total number of traffic deaths was rising (Fell and Hash, 1989). These numbers would have to figure into the definition of success.

Many of the reasons for the decrease relate to the policy changes and adjustments over the last several years, from drinking and driving penalties, to the decrease in the availability of alcohol, to increased education. None of these measures is designed to eliminate traffic fatalities, their impact will take place at the margin. That some level of alcohol related crashes will persist does not mean that these measures have failed. (Wagenaar, 1983).

And of course, we only count the number of failures. We keep track of the number of people who are arrested from driving while intoxicated, we project how many drunk drivers are on the road, we number the bodies that are injured or killed because of alcohol-related accidents. This is understandable, it is the hard data that we so love to deal with, but it is a measure of the amount of failures.

How can you keep track of success? We don't know about the person who didn't die in an alcohol-related crash because they decided to go to a non-alcoholic activity on campus instead. We don't know about the person who didn't get arrested because he or she was confronted by a peer and was persuaded not to drive. We do not know about the pedestrian who was not struck by a drunk driver because instead of four people taking four different cars, they all went in one car with one person deciding to remain sober and be the designated driver. These stories don't show up in the paper, we cannot count them. One certainly wonders how high the death count, the tragedy list, would be without these intractable successes.

References

Asch, P. Levy, D.T. (1987) Does The Minimum Drinking Age Affect Traffic Fatalites? Journal of Policy Analysis and Management, 6, 180-192

Farrell, S. Policy Alternatives For Alcohol-Impaired Driving. Health Education Quarterly, 16, 413-427.

Fell, J.C., Nash C.E. The Nature of the Alcohol Problem in I.S. Fatal Crashes. Health Education Quarterly, 16, 335-343.

Gonzalez, G.M. (1989) An Integrated Theoretical Model For Alcohol and Other Drug Abuse Prevention on the College Campus. Journal of College Student Development, 30, 492-503.

Goodstadt, M.S. (1986) School Based Drug Education in North America: What is Wrong? What Can Be Done? Journal of School Health, 556, 278-281

Jones, C.L., Bell-Bolek, C.S. (1986, May-June) Kids and Drugs: Why, When and What Can We Do About It. Children Today, 5-10.

O'Donnell, M.A. (1985) Research on Drinking Locations of Alcohol-Impaired Drivers: Implications for Prevention. Journal of Public Health Policy, 6, 510-525.

U.S. Department of Transportation, NHTSA, (1985) Alcohol and Highway Safety 1984: A Review of the State of the Knowledge. DOT-HS-806-569. Washington, DC.

Wagenaar, A.C. Alcohol, Young Drivers, and Traffic Accidents: Effects of Minimum Age Laws. Lexington, MA D.C. Health and Co, 1983.

BACCHUS (CANADA)

Carmi Cimicata

Ms. Cimicata is the National Director of BACCHUS, Canada

The BACCHUS philosophy is that young people can play a uniquely effective role-unmatched by professional educators, in encouraging their peers to reflect on, talk honestly about, and develop responsible habits in their attitudes and behaviour towards alcohol use or non-use.

Often, when students perceive alcohol awareness programs and messages to be anti-drinking they will reject them as unrealistic. BACCHUS does not find it necessary to condemn drinking in order to deal with the issues surrounding the harmful misuse of alcohol. Instead, BACCHUS recognizes the role alcohol has long held in social activities, and promotes responsible decision-making concerning its use or non-use.

We hope that when you see our materials and learn more about our national programs that you will agree that they are both positive and student-oriented. The success of BACCHUS depends on a group of students, from diverse campus constituencies, who have realized the healthy and positive impact they can have when they come together in the name of alcohol awareness. BACCHUS is a program that post secondary students are comfortable with.

Our goal has always been and continues to be, to help universities and colleges address the needs and problems associated with the use and misuse of beverage alcohol products. In doing so, we emphasize the extremely important peer relationship which can be a strong support for responsible decisions. Given public concerns about drinking and driving and other alcohol related issues, colleges and universities have not escaped and will not escape "the liability crises". If anything, it has become more complex, elusive, and explosive. College and university administration shoulder the fear of potentially devastating legal decisions. And in the overwhelming majority of incidents which give rise to these difficulties, alcohol abuse has played a strong and unwelcome role. Clearly our educational responsibility is at least as dramatic as the outcry against the harmful abuse of alcohol.

A college or university's responsibility for the safety and well-being of its students, made more complex and more pressing by future legal decisions, must now be exercised and demonstrated energetically. It must take the form of ambitious, institutional-supported awareness programs that reach the maximum number of students and maximum visibility. These programs must have diverse and far reaching goals. They must have total campus support and participation, where BACCHUS is only one component of an overall alcohol education effort.

BACCHUS Fact Sheet

BACCHUS is a alcohol awareness and abuse prevention program, promoting responsible decisions about the use or non use of beverage alcohol among college students. BACCHUS advocates informed, independent decision-making and respect for the choice of abstinence.

BACCHUS is spearheading a Canadian National Collegiate Alcohol Awareness Week.

BACCHUS is sponsoring a fourth Summer Leadership Conference where students get to share ideas, and to gain a perspective on alcohol awareness programs across Canada and the United States and to elect new student representatives to the BACCHUS Board of Directors.

BACCHUS has been able to host one day seminars in several provinces this year. We hope that this will give smaller campuses the opportunity to become more involved.

BACCHUS is sponsoring a new and exciting National Impaired Driving Program for post secondary students. This is the second time that the student population has been targeted for a campaign.

BACCHUS is working with Robert Solomon, OFS, the Ontario Committee of Student Affairs and the Addiction Research Foundation to coordinate efforts for an Ontario program on alcohol policies and education.

BACCHUS is now managing Project Live Audience, so that this valuable promotion continues to be accessible to those campuses which desire to use it.

STRATEGIES FOR MOBILIZING THE CORPORATE SECTOR IN JOINT VENTURES

UNITED STATES

Dr. James Hedlund

Dr. Hedlund is the Director of the Office of Alcohol and State Programs for the National Highway Traffic Safety Administration, of the United States Department of Transportation

Introduction

Drinking and driving is a societal problem, not just a governmental problem. Governments, of course, are charged with improving and maintaining the safety and public health of their citizens. Governments also bear many of the costs of drunk driving crashes. But businesses also pay very directly for the consequences of drunk driving through health and disability insurance and employee time lost through injury or death. Businesses involved directly or indirectly with alcohol service have an even greater stake in preventing drinking and driving.

With this common agenda, it seems only natural to promote joint government-business initiatives to control drinking and driving. The potential benefits are clear: the limited resources available to business and government separately can have a greater effect when combined. The strengths of each — ideas, funds, people, media, contacts with drinkers and drivers — can complement each other.

But life is seldom this simple. Business and government are often wary of cooperation, especially in traffic safety. The government is considered a meddling regulator that imposes unnecessary restrictions on business and limits individual freedoms. Businesses are considered greedy capitalists motivated solely by profits and unconcerned with the societal effects of their actions. Even when both sides agree on a broad goal, their specific agendas seldom coincide exactly. In any cooperative effort, their different organizational and operational styles cause frequent conflict.

Examples speak more clearly than generalities. This paper discusses a recent United States program in which the federal government has joined with businesses to attack drinking and driving. This example may suggest some lessons for similar efforts in the United States or elsewhere. The discussion is restricted to national-level cooperation: the fascinating topic of community traffic safety programs with both public and private participation must wait for another paper.

TEAM's Beginnings

It is unclear which came first: the acronym, TEAM, or the full name, Techniques for Effective Alcohol Management. The idea arose in the mid-80's to address problems of alcohol abuse and rowdiness at sports arenas and other public facilities. The facilities themselves were worried about financial liability. In addition, the National Basketball Association sought to promote a more healthy, "family entertainment" image for its product. Jerry Sachs, President of the Capital Centre in Washington (home of the Washington Bullets basketball team and Capitals hockey team) put the issues very succinctly when he called the Capital Centre "the biggest bar in town" on a Friday evening.

Sachs was a leader in Washington-area community traffic safety activities. He knew the National Highway Traffic Safety Administration (NHTSA), and in particular knew George Reagle, NHTSA's Associate Administrator for Traffic Safety Programs, who directed NHTSA's drinking and driving activities. Sachs also was involved with the International Association of Auditorium Managers (IAAM), the trade association for basketball arena managers. Through these contacts the initial TEAM coalition of NHTSA, the National Basketball Association, IAAM, and a number of basketball arenas was born.

TEAM Today

From those beginnings, TEAM has expanded to a coalition of eleven organizations including:

- Professional sports leagues: the National Basketball Association (NBA) and Major League Baseball (MLB)
- Media: CBS and the National Association of Broadcasters (NAB)
- Arenas: the IAAM and the Capital Centre
- Government: NHTSA and the National Association of Governors' Highway Safety Representatives (NAGHSR)
- Industry: Allstate Insurance and the Motor Vehicle Manufacturers Association (MVMA)
- Safety: the National Safety Council (NSC)

TEAM's goals are to reduce drinking and driving, concentrating on methods in which sports leagues and public assembly facilities can promote responsible alcohol use at national and local levels. Its programs fall into three major areas.

National Public Awareness

National drinking and driving campaigns featuring nationally televised public service announcements (PSAs) were developed. A typical campaign is built around a national PSA with a professional basketball or baseball star. The sports leagues donate the player's time, NHTSA and other TEAM industry members fund the PSA production, and CBS and the sports leagues donate broadcast time, usually during sports broadcasts. Campaigns also use posters, sports program and newspaper advertisements, and other materials with the overall theme and sports star. Through 1989 TEAM produced ten different PSAs that were shown in donated air time valued at almost $9 million. Two more PSAs are underway currently.

Facility Alcohol Management

A complete alcohol management program for sports arenas and other public assembly facilities was developed. The program guides and assists a facility to assess its current alcohol service policies and practices, develop new policies where needed, train its employees, implement the new policies, and evaluate the results. Through 1989 over 80 facilities in 35 states and five Canadian provinces have adopted this TEAM program. These include all Major League Baseball parks and most National Basketball Association arenas. The TEAM facility program has produced notable improvements in alcohol service practices.

Local Groups

Assistance has been provided to local traffic safety groups. TEAM recently began making some of its services available to local groups. TEAM provides participating local groups a connection with TEAM's national sports, traffic safety, and business members. TEAM also provides both national and locally-adaptable campaign materials: for example, PSA "donuts" that allow a local athlete to be inserted in a national-quality television PSA, or a traffic safety poster or print ad where a local athlete or message can be inserted. About 10 local groups currently use TEAM materials.

TEAM operates as a coalition. All 11 member organizations have a representative on the TEAM national board. The Board meets quarterly to review operations and set program directions. An

Executive Committee manages affairs between Board meetings. Day-to-day operations are directed by committees in each of the major areas: Marketing (for all public awareness and PSA activities), Facility Alcohol Management, Local Users, and Membership and Finance. Any interested national member can belong to any committee. A typical committee has about four members.

TEAM members contribute resources in different ways. There are no fixed contribution requirements. Instead, it is understood that each member will contribute staff time and financial or in-kind services as appropriate. The sports leagues contribute athletes for PSAs and local appearances; the media and the sports leagues contribute television air time for PSAs; individual arenas and facilities contribute a variety of advertising and promotional services; NHTSA provides most of the direct financial support, with other business members providing the rest. All members assist local groups; all members contribute their staff and support time for committee work and TEAM National meetings.

NHTSA provides the equivalent of two to three full-time staff members to work on various TEAM activities. In addition, NHTSA contracts with a Washington-area firm to provide appropriate executive secretariat and coordination services.

TEAM Issues and Observations

TEAM is a success: it has produced clear accomplishments in all three areas. But the road has been far from easy. The advantages and disadvantages of TEAM's coalition approach appear in several major ways.

Agenda

What's TEAM's benefit to me? Each member joined TEAM to further its own interests. The core interest of course is drinking and driving. TEAM's main vehicle and setting for addressing drinking and driving is through sports arenas, and other public assembly facilities. TEAM's messages and programs are predominantly "responsible use" directed at adult audiences.

This agenda serves TEAM's sports, media, and facility members reasonably well. TEAM's other members — government, industry, and safety organizations — have broader drinking and driving interests. They accept TEAM's limited role and remain active participants only as long as TEAM's activities serve their needs. Indeed, two early TEAM industry members left TEAM as it became clear that TEAM activities would not be sufficiently useful to them to make their participation worthwhile. On the other hand, TEAM membership has hidden costs for sports, media, and facility members: TEAM's "responsible use" policies are likely to reduce a facility's alcohol sales volume (though some evidence suggests that total concession sales have not decreased when a facility adopts TEAM alcohol management policies). Conclusion: every member must realize that TEAM can pursue only a portion of the member's agenda.

Policy

Who sets it? While TEAM does have formal bylaws and committees, in practice TEAM is a loose coalition without rigid rules for making decisions and enforcing policies. The two guiding principles are consensus and "sweat equity": all decisions are unanimous insofar as possible, but a member has a vote only if the member contributes effort by working on the issues and attending the meetings. If you don't play, you don't vote. If you don't like what TEAM is doing, you can quit.

These operating principles mean that decisions are often painful, time-consuming, and frustrating. A proposal to do something new frequently meets with objections from at least one member organization. This then leads to debate, negotiations, and delay. The organization frequently is slow-moving and cumbersome. (Another complicating factor is geography. For example, the committee and staff members who work together on a new PSA are divided between New York, NY, Rockville, MD, and Washington DC. The "fax" machine is their salvation). Consensus actions from such a diverse group are usually "lowest common denominator" decisions. TEAM is not the place for bold new initiatives.

Resources

Who contributes what? With no fixed dues or other resource contribution requirements, TEAM continually has more ideas than it can support. TEAM is in some sense a hobby for all members except NHTSA (for which it is one of many drinking and driving programs). This means that even staff time and travel funds for TEAM activities must be squeezed out of busy schedules and limited funds. Long-range planning and continuity of activities is difficult.

Oversight

Who provides it? Not only do TEAM members have their individual agendas, they also have their individual restrictions on how their names, employees, and resources may be used.

For example, local groups with broad drinking and driving agendas may wish to use TEAM materials to promote a variety of activities. But TEAM National is quite sensitive about the activities with which TEAM may be associated, even when the activities fall within TEAM's basic agenda. More specifically, local activities may be supported by various local sponsors. TEAM National member sports leagues have quite strict rules on which sponsors are permitted for activities involving their athletes.

The individual TEAM member concerns require approval and oversight procedures. At the national level, they are resolved in committees through consensus and participation. If a member is concerned about national PSAs, then it joins the marketing committee and participates in all PSA planning and production. TEAM has tried various forms of two basic strategies to assure that local users of TEAM materials satisfy the requirements of TEAM's national members. One strategy defines a very limited number of allowable TEAM activities. This results in limited oversight and conflict but also limits TEAM's appeal and use. The other strategy allows a broader range of activities but requires that activity plans be approved by TEAM National in advance. This of course increases the program's bureaucracy. The final chapter in the national v. local discussion has yet to be written.

Organizational Culture

Whose rules are used? The United States federal government operates under certain "cultural" rules and patterns; sports and media have very different cultures; business is different yet. Examples abound. How much authority does a TEAM member's representative have to express the views of and commit his organization? How quickly can decisions be made? How rapidly can an organization move to implementing an agreed-upon action? Are funds available upon short notice for travel? Must contracted work be advertised and competed or not? Can proprietary information be discussed; if so, is it subject to open disclosure? Can product use be restricted or must it be open to all?

These cultural differences should not be taken lightly. An apparent disagreement between TEAM members on what should be done may in fact reflect the different members' perceptions of how it should or must be done.

Conclusion

TEAM's most successful ventures have been its national media and facility alcohol management programs. Their success is based on several factors:

- There is a well-understood common agenda that each member wishes to pursue;
- There are activities to address this common agenda to which each member can contribute;
- The contributions together are sufficient to conduct the activities;
- Each member gains more from the activities than he or she contributes; and
- All members are willing to work together, with considerable tolerance and patience.

Less tangible factors also have been important. TEAM could not have started without a few deeply committed individuals. It could not have survived without the consistent support of a few organizations which were willing to take risks — to conspire with strange bedfellows toward common goals.

There's nothing especially novel in this strategy for joint ventures: find a common agenda, find a role for each participant, and be willing to invest time, energy and tolerance in the effort. It's far easier to say than to do. But when it succeeds, it can produce ample rewards for all.

CHAPTER VI:
DRUNK DRIVING: BEYOND THE CRIMINAL APPROACH

CANADA

Dr. Evelyn Vingilis

Dr. Vingilis is the Head of the Drinking Driving Research Unit of the Addiction Research Foundation

The drinking-driving problem in many countries necessitates the development of various countermeasure approaches. The ultimate goal of these approaches is injury control, and as such, these approaches fall under primary or secondary injury control prevention strategies. Primary prevention tries to prevent potentially injurious events (the pre-event phase) and secondary prevention tries to minimize the consequences of the injury (event and post-event phase).

The widespread belief that injury control in the drinking-driving area is primarily a problem of behaviour modification has caused the prime focus of prevention to be on the first phase of the injury control sequence, that is, to prevent the crash. The prevention of injuries through modification of human behaviour is usually attempted both through voluntary or educational means which include mass communications and specific education programs, such as driver education, or through compulsory or legal means which include the components of legislation, enforcement, adjudication and sanctioning meaning fines, jail, licence actions, rehabilitation and community service orders.

Education programs attempt to dissuade potential drinking drivers from engaging in drinking-driving behaviour. Underlying all education programs seems to be the assumption, as in classical deterrence theory, of a "rational being" in which knowledge is viewed as fundamental to the decision making process of behaviour choice (Mann, Vingilis and Stewart, 1988). Thus, the knowledge of drinking-driving issues is perceived as an important component in appropriate driving behaviour formation or behaviour change. The philosophy seems to be that once an individual becomes aware of the dangers involved in drinking and driving, he or she will be less likely to combine the two behaviours. In sum, knowledge of the issues and consequences of drinking and driving is considered a necessary, but most likely not a sufficient condition for the formation of sober driving behaviour. To date, the results of education programs whether they be driver or school education programs (Mann et al. 1986) or mass media campaigns (Vingilis and Coultes, in press) in and of themselves have demonstrated changes in knowledge, occasionally attitude, but not necessarily behaviour.

These results have lead many researchers to believe that the "stick" and not the "carrot" approach is more effective. Thus, legal sanctions are viewed by many to be most important in reducing drinking driving behaviour. Deterrence theory poses the assumption of a "rational being" in which the individual weighs the costs and benefits of a particular decision. Deterrence theory suggests that compulsory control measures are necessary to create a criminal risk. That is, the perceived and real public health risk of crash involvement is not great enough to affect the cost-benefit decision making process in the positive direction. Deterrence to date as we have heard has been the most effective countermeasure. However, as I and others (Vingilis, in press; Ross, 1982) have argued there are some limitations to deterrence. It cannot be the only method used. What we can say on the basis of our research is that drinking driving sanctions do not deter all individuals under all circumstances. Homel (1986) summed it up very nicely by stating that deterrence is "a dynamic and unstable situation with a constantly changing mix of those deterred."

Unfortunately, drinking driving is sometimes neither rational nor affected only by criminal sanctions. Drinking driving can be impulsive, such as with youths joy riding, and compulsive behaviour such as with problem drinkers. Furthermore, research has indicated that non legal sanctions of both personal and environmental natures are more important. Factors such as moral commitment to the laws or expectations of peer groups can be more predictive of drinking driving behaviour than the perceived risk of arrest (Vingilis in press).

The most successful approach to date has been, what is called the "systems" approach. Under this approach, a number of different countermeasures are introduced in which the belief is that combined, consistent efforts are more successful than individualistic approaches. The America Alcohol Safety Action Projects (NHTSA, 1980), the British Columbia's CounterAttack Program (Mercer, 1985), New South Wales' Random Breath Testing Program (Homel, 1986) are some examples of systems approaches in which for example, new laws, increased enforcement, mass media were all used in reducing drinking driving behaviour. Many of these programs have met with success, albeit some successes have been short-term. However, a systems approach is more than that. A systems approach sees both alcohol consumption and driving as factors impacting on our levels of drinking-driving. For example, setting spotchecks but building a large sports stadium in city outskirts which will sell alcohol but offer no public transit is not a systems approach. Introducing tougher laws but having cut rate sales of alcohol in stores is not a systems approach. Having drinking-driving education in schools but allowing motorcycle helmet laws to be repealed is not the systems approach. Drinking-driving is part of not only the criminal justice system but also the public health system. And under the public health system not only is alcohol consumption a factor but traffic safety is also a factor. Any policies that increase per capita consumption or motor vehicle mobility could impact on drinking-driving. Efforts to reduce these two factors could also reduce drinking-driving behaviour. There is, however, yet another component to injury control and that is second degree prevention. For some reason second degree prevention is rarely if every talked about at drinking-driving conferences. Yet many traffic safety researchers (Haddon and Baker, 1981; Ross, 1982; Little, 1980; Robertson, 1983) are opting for secondary prevention through environmental controls.

Little's (1980) advice is "to forget about more severe laws and work for a safer environment to drive in (sturdier cars, safer highways)" (p. 284). Ross (1982) offers that general controlling of the environment has the advantage over dealing with more narrowly defined problems in being relevant to crashes with any number of causes. Haddon and Baker (1981) propose that strategies focussing on vehicles, highway system, and alternate models of transportation promise far more.

Improvements in vehicle design have been associated with reductions in crash injuries. Unfortunately, most people are still more concerned about the colour of their cars than safety features. Ideally, proper vehicle design should passively protect the occupants of a vehicle; for example, airbags versus seatbelts. Active protection devices still require occupant cooperation and, as a consequence, often need behaviour modification techniques to induce occupant cooperation. In practice, although automatic protection is improving (e.g., through use of energy-absorbing steering assemblies to reduce chest injuries), occupants still must manually ("actively") cooperate by using belts. When lap belts are used, the chance of death or serious injury to front seat occupants is reduced by about 30 to 60 percent (Haddon and Baker, 1981).

In the United States, the use of seat belts by front seat occupants has rarely exceeded 50 percent. In Canada, seat belt use is estimated to be about 70 to 90 percent.

Automatic protection devices, such as airbags, delayed for many years by some manufacturers, promise high improvements in occupant protection. Inflating automatically in potentially injurious frontal crashes, studies indicate that in front and front angle collisions (which produce the majority of occupant deaths) airbags, without lap belt use, provide protection slightly superior to three point belts, if worn. For all crash configurations combined, when lap belts are worn in airbag-equipped cards, the combination protects at least as well as three point belts, if worn (Haddon and Baker, 1981).

When an airbag deploys, the driver can steer, if necessary after the initial impact. Furthermore, tests by General Motors and real-world crashes show that airbags protect well even in typical multiple impact crashes. The first 800 million miles of everyday use have demonstrated that airbags deploy when they are supposed to. Undesired deployment of airbags while vehicles are being driven on the public highways has not been a problem, having occurred on average (including prototype systems) only once per 270 million vehicle miles. Mass-produced, airbags would cost far less than the injuries they would prevent (Haddona and Baker, 1981).

Another type of passive restraint is the automatic seat belt. These automatially position a belt diagonally across the upper torso of a front-seat occupant when the door is closed, without requiring any action by the occupant. Preliminary research evidence indicates that automatic belts somewhat reduce deaths and serious injuries, especially head injuries (Haddon and Baker, 1981).

Furthermore, injury reduction can occur by appropriate modification of contact surfaces and underlying structures. The likelihood of injury from mechanical energy varies inversely with the radius of curvature and the softness of the structure impacted, a principle known to Hippocrates. The magnitude of the forces and the way they act on the body determine the extent of injury. The more abrupt the forces and the more localized the areas on which the forces act, the more likely it is that injury will occur. Removing projections, rounding and softening corners and edges of likely impact sites, such as vehicle door window frames, are vital strategies to injury control (Haddona and Baker, 1981).

Proper road design has also shown success in preventing crashes, by reducing demands on drivers. Common crash precipitating designs include sharp curves and steep grades, failure to separate opposing streams of traffic, uncontrolled access crossings at grade, "blind" intersections, inadequate signs and poor roadside design. Furthermore, many people die in collisions with roadside hazards. Countermeasures for injury control would include levelling roadsides, removing fixed objects, such as trees, locating essential signs and poles sufficiently far from traffic or modifying them to yield gently when struck, shielding fixed objects with energy absorbing barriers, and designing guard rails to guide vehicles away from abutments, poles, and embankments without placing them on a collision course with other vehicles (Hidden and Baker, 1981).

However, the major problem with these proposed environmental controls is that many are infeasible in a large number of regions and countries of the world. Most roadways cannot be limited access, shouldered, barricaded structures, and this limits the degree of injury control possible.

Conclusion

It is obvious from the information presented during the conference that a mixed prevention strategy must be used, incorporating countermeasures addressing each phase of the injury-control sequence. Ideally, we should intervene at the pre-event phase, that is, prevent events before they happen. Although environmental controls, such as alcohol safety interlock systems for vehicular ignitions, are possible in primary prevention, by and large, we are talking about human factors under the rubric of primary prevention - the attempt to dissuade people from coupling alcohol and driving. However, the current pessimism regarding effectiveness may be somewhat unwarranted. Although long term, permanent reductions in crashes have not been found consistently, the achievement of short term reductions still translates into injury and monetary savings. Our ultimate goal is to change public mores towards drinking and driving. It should be possible. In the last century, chewing tobacco and taking snuff were highly popular, and I think it is safe to say that public acceptability of these products has waned. Therefore, continued efforts are needed for the tide to turn on drinking and driving. However, in the meantime, we should be maximizing our short term effectiveness by various methods, such as high intensity spotchecks and blitzes at randomly located high drinking driving areas, improved police training in detection, streamlined adjudication systems and so on. Although traffic crash reductions have not been maintained consistently by legal deterrence, it is possible that serious enforcement and sanctioning over many years may affect public mores. Issues related to alcohol availability and traffic safety also need to be addressed and made consistent with policies and programs used to reduce drinking driving. To date, we do not know what factor or combination of factors change public mores. Therefore attempts must continue for behaviour modification through legal and educational countermeasures.

Further, since we have not had major impact thus far in changing the behaviour of all drinking drivers, we must also concentrate on secondary prevention. Continued efforts must occur to make both vehicles and the environment more forgiving, so as to minimize injury. Although some of the environmental changes, such as removing all barricades, pose some problems, there is little excuse for not producing safer vehicles. Improvements in vehicle design, such as occupant restraint systems, energy-attenuating steering assemblies, head restraints and windshield modifications, have all been related with reduced crash injuries. Lax motor vehicle safety standards can no longer be accepted.

In conclusion, both primary, through voluntary and compulsory controls in drinking-driving, the alcohol availability and traffic safety areas and secondary, through environmental controls, prevention strategies are necessary to maximize our potential for injury control. Serious efforts should continue in both spheres. Finally, again let me stress there is no one magic bullet. I feel at this point this statement is a truism but as recently as yesterday a reporter asked me "So what should we be doing? More enforcement or more education?" I was exasperated - why do we still think one or the other? There is no "or" in drinking-driving prevention - it is not a simple problem like a headache where you take A.S.A. or acetaminophen. We really have to start looking beyond simple drinking-driving countermeasures and start asking some serious questions.

Can we reduce drinking-driving crashes independent of challenging our idolized Clint Eastwood image of manhood, independent of our alcohol control policies, independent of our traffic safety attitudes? Can we really dramatically reduce drinking-driving crashes without seriously assessing our cultural norms and values towards drinking and driving?

Also are we too wedded to the same old thing, both in terms of programs and evaluation? Education research is still using the knowledge-attitude-behaviour change model, yet over the past 60 years there has been no evidence that it is either appropriate or successful. Why are we still using it?

Why do we in fact have so little evaluation in the first place. My colleagues and I just finished a review on mass communications and drinking-driving. Despite the billions of dollars spent on mass communication throughout the world there was a total of only about 20 evaluations and none of them was really good. How can we therefore know what works?

In summary let me say that we should broaden our horizons in our quest to reduce drinking-driving; we should embrace a more global approach to the problem and finally we should be evaluating our initiatives. Only through this creativity and trial and error process are we going to get the answers.

References

Haddon, Jr., W. and Baker, S.P. (1981) Injury control. In D.W. Clark and B. MacMahon (Eds.) Preventive and Community Medicine, Little, Brown and Co., Boston, U.S.A.

Homel, R. (1986) Policing the Drinking Driver: Random Breath Testing and The Process of Deterrence. Federal Office of Road Safety.

Little, J. (1980). Drinking and Driving and the Law. Criminal Justice Abstracts, 12: 261.

Mann, R.E., Vingilis, E., Leigh, G., Anglin, L. and Blefgen, H. (1986) School-based Programs for the Prevention of Drinking and Driving: Issues and Results. Accident Analysis and Prevention, 18(4): 325-338.

Mann, R.E., Vingilis, E., and Stewart, K. (1988) Programs to Change Individual Behaviour: Education and Rehabilitation in the Prevention of Drinking and Driving. In M.D. Laurence, J.R. Snortum and F.E. Zimring (Eds.) Social Control of the Drinking Driver (pp. 452). Chicago, Illinois: University of Chicago Press.

Mercer, G.W. (1985) The Relationships Among Driving While Impaired Charges, Police Drinking-Driving Roadcheck Activity, Media Coverage and Alcohol-related Casualty Traffic Accidents. Accident Analysis and Prevention 17(6): 467-474.

National Traffic Safety Association (NHTSA) (1980) Alcohol and Traffic Safety Workshop Series 1980-81. Washington, U.S.A.

Robertson, L.S. (1983) Injuries: Causes, Control Strategies and Public Policy, Lexington Books, Lexington, U.S.A.

Ross, H.L. (1982) Deterring the Drinking Driver: Legal Policy and Social Control, Lexington Books, Lexington, U.S.A.

Transport Canada, Road Safety Branch (1982) Estimates of Shoulder/Seat Belt Use According to 1979, 1980 and 1981 Surveys, Leaflet 8202 (e), February.

Vingilis, E. (in press) A New Look at Deterrence Models. In J. Wilson and R. Mann (Eds.) Drinking and Driving, Guilford Publications, Inc. New York, N.Y.

Vingilis, E. and Coultes, B. (in press) Mass Communications and Drinking-Driving: Theories, Practices and Results. Alcohol, Drugs and Driving.

UNITED STATES

H. Laurence Ross, Ph.D.

Dr. Ross is a professor of Sociology at the University of New Mexico

The Limitations of Deterrent Policy

The bulk of drunk-driving policies adopted worldwide during the last decade have been based on the theory of deterrence, the idea that threatening a certain, severe and swift punishment for the prohibited activity will dissuade those who would otherwise be tempted to engage in it. The laws have threatened severe punishment, for example, by mandating jail sentences even for first-offender drunk drivers. They have attempted to increase the swiftness of punishment with administrative licence revocation, and they have aimed at increasing certainty of punishment through empowering and encouraging police in their patrols.

Although these deterrent policies, especially those focusing on swiftness and certainty of punishment, appear to have had some effect, the continued presence of alcohol-related fatalities on the roads of all major automobile-dependent nations suggests that deterrence-based laws alone cannot reduce drunk driving to an acceptable level. An important reason for this is that deterrent laws do not address the fundamental cause of drunk driving, which lies in the social institutions of recreation and transportation. Moreover, deterrence-based policy is costly. Laws threatening punishment for offenders do not enforce themselves. To be effective, they require an expensive array of personnel and facilities including police, courts and jails, and the costs must also be calculated to include the burdens of the citizenry in submitting to increased surveillance by the criminal justice system. In the words of our colleague, Ross Homel, "The costs in a democratic society of a system of enforcement and a style of publicity which rely increasingly on the creation of feelings of terror in the driving public should not be underemphasized." (1988, p. 271; cf. also Jacobs, 1989)

Opportunities Presented by the Public-Health Viewpoint

A more promising set of policies is available if drunk driving becomes perceived as a health issue rather than merely as a criminal justice issue. Viewing it as a health issue requires focusing on deaths and injuries, rather than the villainy central to the criminal justice approach. In the perspective of health policy, the deaths and injuries associated with drunk driving are the measure of the problem. These could presumably be lowered by reducing driver impairment, either through deterrence or through policies impinging on the use of cars and of alcohol. In addition, they could be lowered by changing the consequences of impairment: perhaps impairment need not result in crashes, or crashes need not produce injuries, or injuries need not kill. This health issue view opens new opportunities for social policy. Rational planning suggests that primary emphasis should be on those options that most effectively and most efficiently impact the bottom line of deaths and injuries. From this viewpoint, the issue of morality—especially difficult to resolve when one recognizes that most victims of alcohol related fatal crashes are the drunk drivers themselves —is irrelevant, and punishment is justified only insofar as it is effective in reducing future drunk driving.

Reducing Impairment through Alcohol Policy and Transportation Policy

A sociological understanding of drunk driving includes the perception that driving while impaired by alcohol is the consequence of widespread drinking in a society dependent on the private automobile for transportation. If either of these activities—drinking or driving—could be reduced in totality, it stands to reason that impaired driving might also be reduced.

There now exists considerable research (reviewed by Wagenaar and Farrell, 1988) supporting the idea that consumption of alcohol can be reduced, and its pattern changed through public policy and that alcohol-related problems, including drunk driving, decline in consequence. Examples of policies found to be successful include increasing the legal drinking age and raising the price of alcoholic beverages by taxation. In four United States studies reviewed by the General Accounting Office (1987), reductions in fatalities of between five and 28 percent were found among drivers affected by increasing the drinking age. Saffer and Grossman (1987) have estimated that a doubling of the current federal tax on beer would reduce highway deaths by more than a quarter among 18 to 20 year-olds, and by nearly one fifth in adjacent age groups. Such accomplishments have seldom been credibly claimed for policies based on deterrence principles alone.

Other policies based on affecting alcohol consumption in general also have promise for reducing drunk driving. One of these consists of establishing and increasing civil liability for servers of alcoholic beverages in the event of crashes involving their patrons. This might have the greatest effect if accompanied by immunities for enterprises training their staff to recognize and deal with impending intoxication (Colman, Drell and Mosher, 1985). Establishment and enforcement of beverage-control laws restricting and prohibiting service practices likely to encourage alcohol consumption such as discounts on drinks during "happy hours", is another opportunity. Laws prohibiting the service of intoxicated persons could be more vigorously enforced. Alcohol advertising might be regulated (Atkin, 1989) or counter-advertising placed in media along side of advertising for drinks. Transportation policy, though urged for many years as a drunk-driving countermeasure by observers like Joseph Gusfield (1981), has less often been employed. Perhaps this is because the relationships are less obvious, or perhaps because some policies, such as increasing urban density, are difficult to apply in the short run or, like subsidized taxis, appear utopian. However, certain current drunk-driving countermeasures like free rides home offered to intoxicated drivers by bars and community groups, especially on holidays, "designated driver" programs supported by the liquor industry,and parental pledges of transportation central to the program of Students Against Drunk Driving (SADD), fall in this category. Some of these appear promising to the extent they are used (Apsler, 1989).

Severing the Links Between Impairment, Crashes, Injuries and Deaths

The public health viewpoint implies that drunk driving might possibly be tolerable if its consequences of crashes, injuries, and deaths could be avoided.

From the viewpoint of traffic safety alone, the drunk driver's impairment could be overlooked if it did not result in errors and subsequently in crashes. In addition to trying to reduce impairment, policy can attempt to render impairment less harmful by simplifying the driving task so that errors are reduced. For instance, reducing the number of intersections vastly reduces demands on drivers, whether impaired or not, and for this reason roads like the Interstate system have very low casualty rates despite the high speeds with which they are often travelled. Traffic lights and stop signs reduce the number and difficulty of decisions that drivers have to make. In the long run, better roads and "smart" vehicles that sense and avoid collision paths will benefit all drivers, and especially the impaired. The resources available to address any social problem are of necessity finite, and whether they are more effectively used to build prisons for drunk drivers or improve highways for them and everyone else to drive on is a question that should be raised and answered before we commit to one or the other alternative.

Similarly, crashes could be by and large ignored but for their producing injuries and deaths. Enormous progress has been made in attenuating this linkage in the United States through regulations promulgated by the National Highway Traffic Safety Administration since 1968. These have resulted in vehicles less likely to injure their occupants and more likely to ensure their survival of crashes. The declining mileage based traffic death rate of recent years in our country is almost certainly due in part to these vehicle modifications. Highways, also, have been changed to be less lethal, for instance by installing better guard rails and using light posts that break in a collision rather than penetrate impacting vehicles. These measures could be extended as part of a policy designed to reduce traffic casualties, including those caused by drunk driving.

Even injuries could be of less concern if their severity were reduced. Occupant protection devices can reduce injury in cases where it cannot be prevented. In addition, the greater availability of emergency medical services has transformed numerous crashes from potentially fatal ones to less serious, albeit injurious, crashes.

In sum, given that social resources are finite, wise policy would seem to encourage their use on the most effective and efficient means of reducing the levels of social problems. In the matter of drunk driving and its consequences, the standard policy of the past decade, based on defining the problem exclusively as one of criminal justice, appears to have overlooked a variety of opportunities for effective and efficient measures based on other views of the problem.

Recent Developments in the United States

The traditional exclusively deterrence-centered, thinking has dominated the deliberations of groups considering drunk driving policy, such as the Presidential Commission on Drunk Driving (1983) and its successor organization, the National Commission Against Drunk Driving, and most similar state and local commissions established during the past decade. One reason has been "self-fulfilling prophecy". The view that the problem in question was basically criminal led to the appointment of commission members from areas like law enforcement who naturally accepted the criminal justice definition as sufficient. The criminal image also accorded with the view of the alcohol industry, frequently represented on these bodies and eager to assert the responsibility of the abusive drinker rather than that of an abuse-prone product (Ross, 1987).

In contrast, public health principles made major inroads into American policy and the Surgeon General's Workshop on Drunk Driving, which took place in Washington in December 1988. Although the impetus to hold the workshop arose from sources associated with the traditional criminal justice approach, such as the citizens movement, the fact that planning took place in the office of the Surgeon General introduced elements of public health thinking into the preparation and execution of the workshop. Sensing what was coming, representatives of interests in the alcohol, advertising, and media industries attempted to delay or cancel the workshop, but they were largely unsuccessful. The Surgeon General's recommendations were announced at the end of May 1989. Deterrence based policies were not abandoned, but they were accompanied by recommendations based on public health thinking. Especially notable was the report of the panel on price and availability of alcohol, which advised, "...an increase in the excise tax could have the largest long term effect on alcohol-impaired driving of all policy and program options available." (Office of the Surgeon General, 1989: 18) Specific recommendations included basing the beverage tax on alcohol content rather than on type of beverage, and raising the tax to adjust for past and future inflation. The advertising and marketing panel recommended among other things that alcohol advertisements be countered by equivalent numbers of health messages, that tax deductions for the advertising not be permitted, that advertising or sponsorship of events for youthful audiences be prohibited, and that health warning labels be included in all alcohol advertising.

The cards furnished by thinking in public health terms are now on the policy table in the United States, along with those previously played. If the reaction of the participants in the Surgeon General's Workshop is indicative, those interested in drunk-driving policy in this next decade want to play with full hands. The newer, public health based policies were the subject of generally positive and enthusiastic reactions in numerous panels, including those devoted to the role of citizen activists and to administrative and judicial sanctions. Following the release of the workshop report it is no longer possible for Americans to think of drunk driving as merely a criminal justice problem, nor of responses to drunk driving as necessarily limited to deterrence. The bottom line of a health based definition has become apparent, and its importance has been officially acknowledged. Although the goal of righting the moral balance through the criminal justice system need not be abandoned, the ultimate success of our drunk driving policies will be measured in terms of lives extended and injuries reduced in seriousness.

References

Apsler, R. (1989) Transportation Alternatives for Drinkers. In Office of the Surgeon General, U.S. Public Health Service. The Surgeon General's Workshop of Drunk Driving: Background Papers. U.S. Department of Health and Human Services, Washington, D.C.

Atkin, Charles R. (1989) Advertising and Marketing. In Office of the Surgeon General, U.S. Public Health Service. The Surgeon General's Workshop on Drunk Driving: Background Papers. U.S. Department of Health and Human Services, Washington, D.C.

Colman, V., Krell, B., and Mosher, J. (1985) Preventing Alcohol-related Injuries: Dram Shop Liability in a Public Health Perspective. Western State Law Review 12: 417-441.

Gusfield, J. (1981) The Culture of Public Problems: Drinking and Driving and the Symbolic Order. University of Chicago Press, Chicago.

Homel, R. (1988) Policing and Punishing the Drinking Driver: A Study of General and Specific Deterrence. Springer Verlag, New York.

Jacobs, J. (1989) Drunk Driving: An American Dilemma. University of Chicago Press, Chicago.

Office of the Surgeon General, U.S. Public Health Service (1989) The Surgeon General's Workshop on Drunk Driving: Proceedings. U.S. Department of Health and Human Services, Washington, DC. Presidential Commission on Drunk Driving (1983) Final Report. Government Printing Office, Washington, D.C.

Reinarman, C. (1988) The Social Construction of an Alcohol Problem: The Case of Mothers Against Drunk Drivers and Social Control in the 1980's. Theory and Society 17: 91-120.

Ross, H. (1987) Brewers View Drunk Driving: A Critique. Accident Analysis and Prevention 19: 475-477.

Saffer, H. and Grossman, M. (1987) Drinking Age Laws on Highway Mortality Rates: Cause and Effect. Economic Enquiry 25: 402-417.

United States General Accounting Office (1987) Drinking-age Laws: An Evaluation Synthesis of Their Impact on Highway Safety. General Accounting Office, Washington, D.C (GAO/PEMD-87-10).

Wagenaar, A. and Farrell, S. (1988) Alcohol Beverage Control Policies: Their Role in Preventing Alcohol-impaired Driving. In Office of the Surgeon General, U.S. Public Health Service. The Surgeon General's Workshop on Drunk Driving: Background Papers. U.S. Department of Health and Human Services, Washington, D.C.